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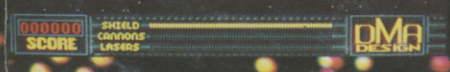

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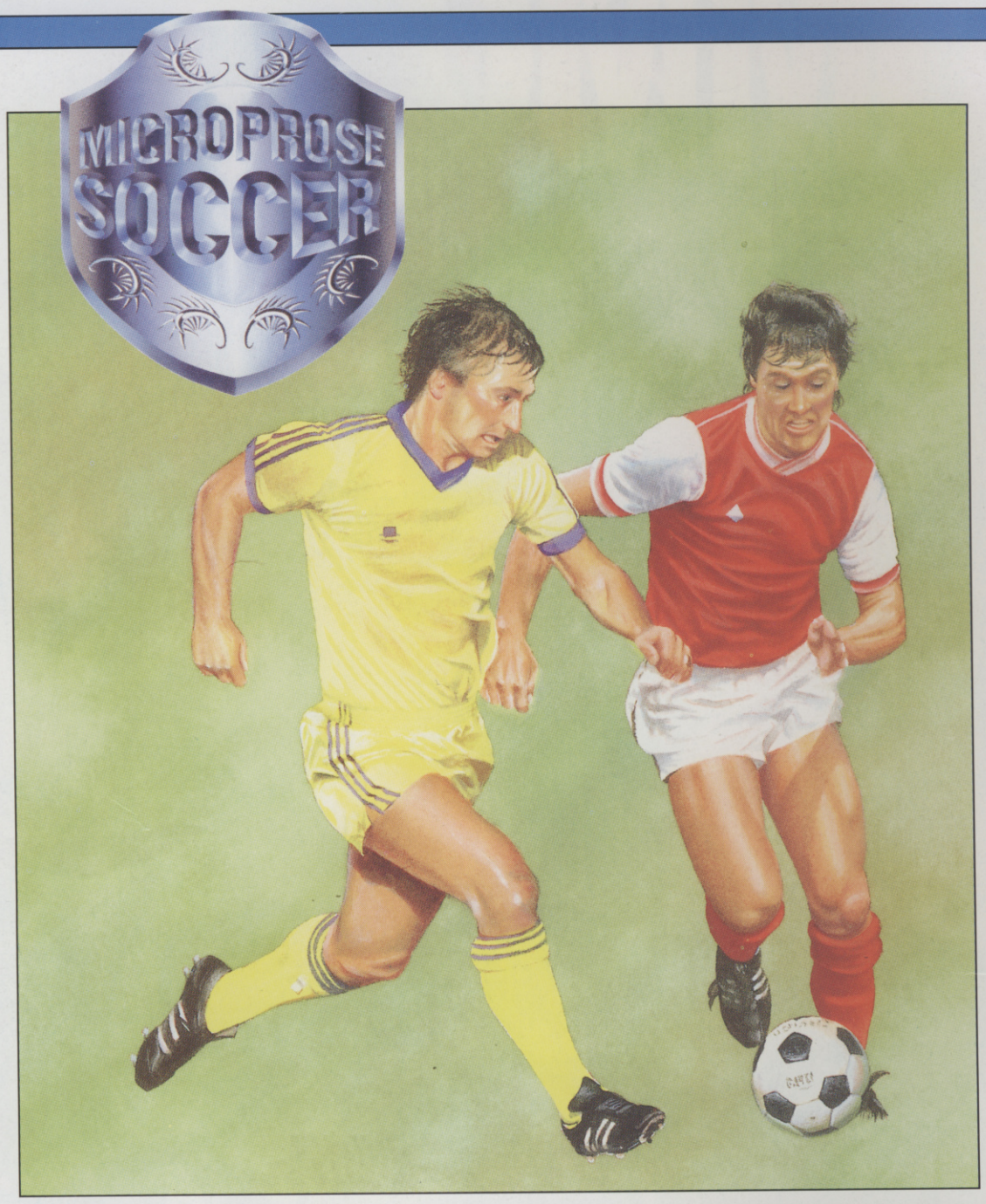

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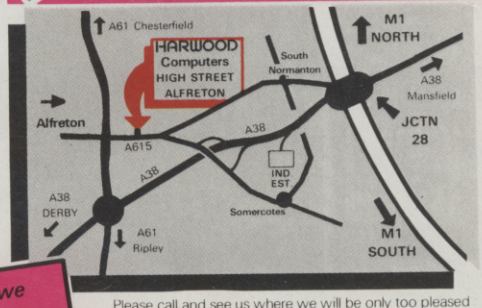

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CCI View

Dear CCI Reader,

When we put CCI together each month we try to make a balance. We always attempt to get material of different kinds so that anyone wanting to be informed – and entertained by – what is happening to the Commodore scene across the whole range of interests will find enough to keep them going, if not for a full month at least for a good part of it.

From time that balance must change. When the Amiga first appeared, we believed, unlike almost everyone else, that it should be taken seriously. So we were the first to start an Amiga section. That developed into a full magazine in its own right, our sister publication, the European leader, Amiga User International. We have still occasionally carried reviews or other items of general interest on the Amiga in CCI. In recent months too we have begun reporting more news than ever – on a whole variety of different subjects.

In this issue of CCI we have changed both the Amiga and the news policies. Because of the now wide acceptance of the Amiga as a computer of growing power in the markets, software houses, much to the delight of CBM and earlier Amiga owners, have started to pour out products for the machine. Across the Atlantic, as we report in our coverage of the 4th AmiExpo in Los Angeles, many new "serious" applications are coming along. On this side of the water, almost every game suitable and some that are not – is being given an Amiga version. For anyone who has an Amiga, AUI will be an obvious choice. But we believe that everyone in the Commodore world today will be interested in the developments of the Amiga, especially as so many faithful Commodore owners of other machines are likely eventually to upgrade to the CBM 16 Bit computer. So this month, there is not just an item or two but a substantial increase in the amount of Amiga material, especially games reviews.

What is happening on the Amiga front is only a part of the rapidly changing computer picture. Both in the home and in business, all over the world there are almost daily events that can reverberate right around the globe, often in unexpected ways.

Who would have thought that CBM would have gained a substantial commercial advantage over such companies as Atari and Amstrad, and one that may affect us individually, by a decision made by the U.S. Government? Yet when the U.S. decided to restrict Japanese and other Pacific Rim countries from "dumping" – selling more cheaply than on their home markets – DRAMS that is exactly what happened. The U.S. Government's action led to a fall off in production, especially of the 256K chips that are the heart of the Amiga and the IBM clones. CBM found itself in the fortunate position of already having contracted for a strong future supply of DRAMS at relatively low prices, which meant that it could lower Amiga prices while others were forced to raise theirs. This is the kind of story we have been reporting, both as news and in background articles that we hope keep you usefully, even profitably informed. This month we felt that there was so much news around that it merited a substantial increase in the allocated space. So there are over 12 pages of news items alone in this CCI, plus more updates on such as areas as the online networks.

Any magazine has to change in line with its readers interests which may not even be the same throughout the year. This CCI we have also increased the number of pages to allow for more games reviews. It is coming up to the time when a huge amount of money is spent on bringing games to the public and by the public buying them. So there is more on them too.

Next month? Probably an even larger issue. What will be in it? More news still? Possibly. More Amiga? Yes, it will all depend on what presents itself as likely to interest you most, what we can find the pages for and how we believe it best interpreted for you. For further and more extensive information, as they say, watch this space . . .

Antony Jacobson, Managing Editor and Publisher.

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Telephone 01-278 0333
Editorial ext. 274
Advertising ext. 280/286
Subscriptions ext. 274
Published by Croftward Limited
Finsbury Business Centre
40 Bowling Green Lane
London EC1R 0NE
Distributed by Comag,
Tavistock Road, West Drayton,
Middx. UB7 7QE
Typesetting
Bedfordshire Graphics
Printed by Chase Printers Group

Commodore Computing International – an independent magazine for Commodore computer users – is not connected in any way with Commodore Business Machines UK Ltd. It is published 12 times per year by Croftward Limited. The publishers do not accept liability for any incorrect statements or errors contained in material from independent sources or authors which may be reproduced from time to time.

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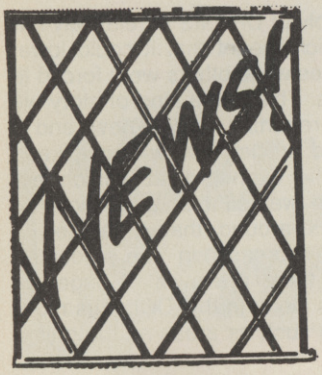


The CBM Xmas Show

A series of new feature events designed to demonstrate the versatility of the Amiga has been announced for the Commodore Christmas Show. The company's flagship computer is to be put through its paces in two major attractions — a Graphics Workshop and a Music Room — at London's Novotel, November 18 to 20. involving the UK's leading lights in the use of both sound and graphics on the Amiga, they will provide platforms to illustrate the huge potential for the machine. For the first time, the show will also provide the venue for a Xmas Card Design Competition. A bank of Amigas will be at the disposal of any show visitors who would like to enter the competition with a major prize being presented by a celebrity judge. Commodore is once more reaching for the stars for the show with Adam Faith and Anita Dobson — both headlining the new West End musical Budgie — among those scheduled to put in an appearance.

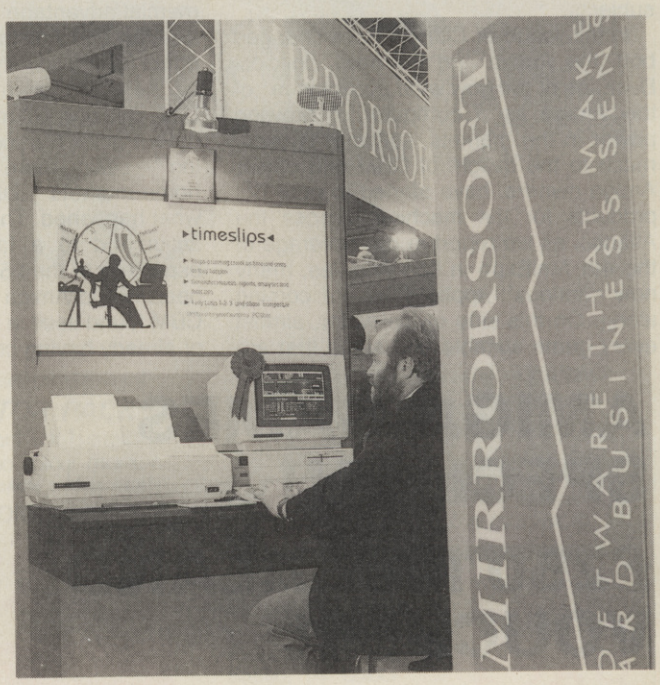
Meanwhile ICPUG has revealed it is to have a significant presence at the Commodore Christmas Show. It is to host regular question and answer sessions, coupled with presentations on the Midi scene and Comal.

Mirrorsoft Prize Show

Mirrorsoft certainly had a lot to celebrate at this year's Personal Computer Show. Commented Marketing Director Pat Bitton: "We started out on a high when Jim Mackonochie, our Chairman, accepted the Small Business Software of the Year award for Timeslips at the annual industry dinner on the first evening of the show — and things just got better and better."

Also making its debut at the show was New Fleet Street Editor for the PC, a much-enhanced version of what is already a very successful desktop publishing package. One of the first visitors to the stand was well-known computing author Ian Sinclair, who has just completed his latest work, Desktop Publishing on a Shoestring, an everyday user's guide to Fleet Street Editor (Brackwell Scientific Publications).

The popular File Rescue Plus Sick Disk Clinic proved to be a crowd-puller as usual, with patients ranging from a journalist (who shall remain nameless!) who had corrupted his show report file to a distressed financial consultant with a very unwell worksheet file.



International E Mail

A new company called International Telecom is to offer international 'store and forward' facilities for facsimile and telex through centres in New York, Tokyo, London and, later this year, Hong Kong. In store and forward communications, subscribing companies send their messages to a local computer centre. These are stored and sent at convenient times for the overseas recipients. Simultaneous delivries can be made to 1,000 destinations. Electronic mailboxes can also be provided from which users can collect material using fax machines anywhere in the world.

Another facility allows local centres to exchange text with personal computers on subscribers' premises. This means material in the PC, rather than in document form, can be faxed. Compared with public networks, International Telecom claims that its system can provide better quality (using its leased lines), faster transmission and cost savings of between 20 and 40 per cent.

The "Software circus" comes to town!

The software publishing group, Paperlogic, has opened the first of a planned nationwide chain of speciality computer software stores called "Software Circus" in The Plaza Shopping Centre in Oxford Street, London.

A new division called Software Circus Limited has been created by Paperlogic and the store is the first of its kind in Britain specializing in selling software for Ibbit Computers including the Amiga.

The 'walk-in' store, on the first floor of this prestigious shopping centre, has over 500 square feet of selling space and a stock of more than 500 different software titles, covering business, education, entertainment, music and sound, computer aided design, graphics and programming.

Heading up the new venture is Steven Markham, Managing Director of the Paperlogic Group of Companies.

He explains: "We have created a whole new concept in software retailing where products are displayed in much the same way as in book or record stores.

"Up until now a limited choice of only the well-known and established software programs have been sold in computer dealerships. Although some software stores do exist, these concentrate mainly on the games market. If we don't have a particular program, then we'll endeavour to get it — fast".

The store is staffed by experienced software salespeople and there are computers — including an IMB PC compatible and an Amiga — in the store for demonstrations of software. The majority of the software products cost less than £200. Customer support includes a free 'hotline' telephone or mail service.

Paperlogic plans to open some 50 similar stores throughout the UK and is also considering other markets for its approach to selling software.

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Unleash the hidden graphics power of your 128. At last, your Commodore 128 can rival the 16 bit micros! Imagine your 128 in 80 columns producing a resolution of 640 x 200 in mono and 640 x 192 in 16 colours without any additional hardware! Sounds impossible? Not with Basic 8, the new graphics language extension.

Basic 8 adds over 50 Hi-Res graphic commands to C128 Basic. Just select one of the many graphics modes and draw 3-D lines, boxes, circles and a multitude of solid shapes with a single command. We've even added commands for windows, fonts, patterns and brushes.

To demonstrate the power and versatility of this graphics language, we have created Basic Paint, a flexible icon-based drawing application program. Basic Calc, a full featured spreadsheet and Basic Write a simple to use word processor with a multitude of fonts. Also included is an icon based desk-top utility which provides quick and convenient access to each of your own Basic 8 creations.

All this graphics potential is yours for **£34.95**, 64k Video RAM upgrade kit **£19.95** and The Beginners Guide to Basic 8 with disk **£19.95**.

Basic 8 Tricks & Tips Volume 1

NEW

This book and disk package explains with the help of demonstrations the necessary routines to display five different screen resolutions: 640 x 400, 640 x 480, 720 x 480 and 752 x 600. This means that you can equal the display power of both the Atari and Amiga 500. As a bonus we have included a program to demonstrate how to use a total of 128 colours within Basic 8. Book and disk. **Only £4.65.**

1541/71 Disk Drive Alignment Package

Problems with your disk drive? The alignment package reports the alignment condition of the disk drive as you perform adjustments. On screen help is available while the program is running. Includes features for seed and head stop adjustment. Allows you to test each full and half track as you realign the drive. Complete instruction manual on aligning both 1571 and 1541 drives. Even includes instructions on how to load the alignment program when nothing else will load. Works on the C64, SX64 and 128 in 64 or 128 mode. **Only £24.95.**

1571 FIX ROM

Are you experiencing any of these problems with your 1571 disk drive, Errors when using Superbase? Device Not Present Errors? Major problems when 2 or more open files? Takes forever to recognize a floppy disk? If you have one or more of these problems then you need 1571 FIX ROM, developed by Commodore Inc USA, just plugs in, solves over 19 main problems. **Only £24.95.**

Commodore 1581 Disk Drive

The New Commodore 1581 drive is now available for the C128 or C64. This drive offers one megabyte of memory, THREE THOUSAND ONE HUNDRED AND SIXTY blocks free, (800K formatted capacity), and a very fast EIGHT THOUSAND Characters per second loading rate. Software for this new drive includes, VizaWrite Classic, HackPack, Petspeed, Oxford Pascal, CAD PAK, Chart Pack, Fontmaster, Spellmaster and much more. Using a package called Super 81 Utilities most software can simply be copied across to the new format. The drive is available for — **£184.95.**

Warp Speed

An incredible accelerator cartridge for the Commodore 128 and 64. Warpspeed has a switch that allows you to select 128 or 64 mode. The features of this cartridge apply to 1541, 1570, 1571 and 1581 disk drives in 64 or 128 mode. These features include loading, saving, formatting and verifying 10 times faster, extended DOS commands, print screen, disk and file copy, built in machine monitor, built in track and sector editor and much more. **Only £34.95.**

The Big Blue Reader

New from SOGWAP Software Inc., The Big Blue Reader is ideal for those who use IBM PC compatible computers at work and have the Commodore 128 or 64 at home. The Big Blue Reader is not an MS-DOS emulator, but rather a unique and easy way to transfer word processing, text and ASCII files between two totally different formats, Commodore and MS-DOS. The Big Blue Reader requires a 1571 on both the Commodore 128 and 64 and will not work with a 1541 or similar drive. **Only £44.95.**
(Upgrades £7.50)

Twin Cities 128

NEW

This is not just another book, it is the new Bible for all 128 users. It contains hardware and software reviews, rumours, opinions and mayhem about the 128 over the last two years; software tricks for most common packages; exploring and programming the 128 and machine language programming. Other topics covered include CP/M, all add-ons including the 1581, 1571 and 1750 RAM units, choosing software, Basic 8, expanding your 128, GEOS, graphics and sound. This book was written by the well known Commodore names, Jim Butterfield, Todd Madson, Fred Bowan and Loren Lovhauq. **Only £12.95.**

The Programmers Notebook

NEW

The Programmers Notebook is a high speed data storage and retrieval system designed specially for the programmer. With Programmers Notebook you can develop a special programming information database tailored to your own needs. It will provide a means of indexing your short routines and other programming information. Each entry has a brief description, date and type of routine. Once entered you can conduct tailored searches on the entire database, in fractions of seconds, looking for any information you select. It will sort, compile, display and provide printed copies in almost any format you desire. **Only £24.95.**

Home Designer 128

NEW

Forget the name this is not a kitchen planner, it is probably the most advanced CAD system for the C128 computer. Home Designer allows you to create extremely detailed and accurate drawings at virtually any scale, with any resolution approaching a plotter. It offers accurate scaling, a powerful command set and up to five drawing layers. Why is Home Designer better than the rest? It is the only CAD system which allows layers of diagrams to be drawn and then laid upon each other in any order. Home Designer has an advanced zooming feature, allowing you to actually increase the drawing resolution, unlike other programs which simply display fat dots on the screen. Most dot matrix printers and plotters are supported and Home Designer works with a Commodore 1351 mouse.
Only £34.95.

Super Pack 2

NEW

Super Pack 2 is the combination of three packages, Pocket Writer, Filer and Planner. The integrated word processor, spreadsheet and database work on the Commodore 64 or 128 in 40 or 80 columns. Each package has all the features you would expect, plus a few you would not. The word processor displays on screen bold, underline, italics, sub and super script fonts as you type. The spreadsheet includes a sideways printing feature as well as 16 digit accuracy, plus a graphics module to produce bar, line and pie charts quickly and easily from your data. The database includes a report writer to create your own professional reports. Full details available on request. Super Pack 2 by Digital Solutions Inc is available for only **£64.95**

Super Disk Librarian

Super Disk Librarian will catalogue up to 1,000 disks and 15,200 programs. Do you have a lot of disks full of programs? Have you ever lost a program which you knew you had somewhere? Then Super Disk Librarian will provide you with a simple means of sorting and indexing the file names. Once the disks have been catalogued, numerous reports and lists can be printed and the library sorted and searched. Super Disk Librarian for the Commodore 128. **Only £29.95.**

The CP/M Kit & Users Guide

The CP/M Kit introduces and explains the unknown, third mode of the C128. The CP/M Users Guide is a 300 page book by Abacus Software covering all aspects of CP/M. Subjects which include the system disk, resident commands and disk copying are described in detail. The CP/M kit contains over 20 CP/M programs including a word processor, chess game and a disk cataloguing program accompanied by a detailed guide to running programs in CP/M. The CP/M kit and Users Guide.
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The ultimate utilities disk for the 1571 disk drive and C128 computer. Copy whole disks with 1 or 2 drives, change disk format, perform CBM DOS, CP/M and MS-DOS utility functions, scratch, unscratch, lock and unlock files, write protect disk, contains disk editor, drive monitor, unique RAM writer and more.
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Merlin, a complete macro assembler editor system for the 128. It includes a full screen editor, sourceror to disassemble programs, print filer to save assembled listings as text files and a relocating linker. It supports local and global labels, entry and external label definitions, and includes several macro libraries. Merlin 128 is supplied with example programs and a detailed manual.
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Zork 1 On C64 Cassette

Infocom's Zork 1, a classic adventure title (the first in the famous Zork Trilogy) is soon to be released on the Commodore 64 Cassette! Zork 1 has remained top best-seller years after it first came out in the early 1980's and now, all C64 home computer owners can begin to enjoy the interactive text adventures that have made Infocom major players in the "story-telling" market.

Zork 1 is an interactive fiction classic that takes you to the ruins of an ancient empire far underground in search of the fabulous treasures of Zork. In this magical universe you will need all of your cunning and skill because still lurking in its crags and crevices are nasty thieves, trolls and troglodytes. Your survival depends on how successfully you deal with these denizens and solve the subterannean world's puzzles. Have you got what it takes?!! Zork 1 will be available from Infocom on the C64 Cassette at £9.99.

More for MicroLink

Spurred UK on by the increase in subscriptions caused by the postal dispute, MicroLink is making further additions to its services for businesses and the general public.

The electronic mail system has announced that its subscribers will be able to communicate directly with fax users all over the world from October 1 — 200,000 of them in the UK alone.

Three more innovative services for business users are also in the pipeline: A high-speed number cruncher will convert units of measure, weight, capacity and temperature from Imperial to metric and vice versa — accurate to 16 decimal places; a currency exchange calculator will give an instant conversion of a given sum of money into any of the major world currencies; a postal rates calculator will show the cost of sending a letter 1st or 2nd class inland, and to Europe and the rest of the world by surface or air mail. The user enters the weight of the letter and, where necessary, the class and the correct rate is instantly displayed.

MicroLink already offers a comprehensive range of facilities — electronic mail, telex and telemessages, a free expert advice service for the business community, a massive library of free computer software, the latest financial information, worldwide airline schedules and fares, extracts from the world's leading publications . . . even flowers from Interflora. Contact: MicroLink. 0625 878888

£3.5m Annie

The Harwell laboratory of the United Kingdom Atomic Energy Authority is to lead European research into the industrial uses of 'neural' computing networks.

A £3.5 m three-year programme will be funded by Esprit (European Strategic Programme for Information Technology) and companies in the UK, France, West Germany and Greece.

Neural computers mimic the workings of the human brain. The concept is to have many simple processing elements, each connected to every other, with information stored in the connections, rather than rely on massive computer memory.

It is hoped that machines can be built that will learn by experience how to find the most efficient way to solve a problem, without being pre-programmed.

The project is called Annie (applications of neural networks for industry in Europe).

Jump II It!

Harrier Strike Mission II is an arcade-style flight simulation with six action-packed scenarios to be released by Big Apple.

Based on an aircraft carrier, your Harrier Jump Jet is armed with Cannons . . . Torpedoes . . . Bombs . . . Sidewinder and Rockets. No matter which scenario you choose, keep on your toes or you are history!

The program features demo versions of each mission, so there can be no excuses, combat that gets harder the better you get, all-round views from inside and outside the plane and a choice of day or night missions. On Amiga and IBM PC at £19.95.

SSG's New Releases

Strategic Studies Group has announced the release of two new titles for the C64/128, The American Civil War Volume III: Wilderness to Nashville and MacArthur's War: Battles for Korea June 1950–April 1951.

The American Civil War Volume III is the final volume in SSG's comprehensive battle history of the Civil War. It uses an improved version of the Decisive Battles system for realistic simulation.

MacArthur's War: Battles for Korea is a follow-up to Halls of Montezuma and Rommel, SSG's best selling land combat games and uses the same highly successful game system. In MacArthur's War the player can command either the U.N. or Communist forces in the hottest battles of the Cold War.

Both programs use WARPLAN, SSG's complete wargame construction kit and WARPAINT, the complete icon editor for total graphics control. In addition both include historical articles for all battles and detailed variants for all battles included for a compete 'what if' analysis of the war. Both are for the C64 priced £18.98.

SSG's titles are distributed by Electronic Arts in Europe.

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Superbase is the most powerful database system ever developed for 8 bit computers. Why? Because not only can you access its commands from menus but you can string them together with BASIC commands to form your own complete programs. Superbase can import data from and export to other programs via sequential files. In addition the C-128 version will load together with the SuperScript word processor to create a completely integrated office system.

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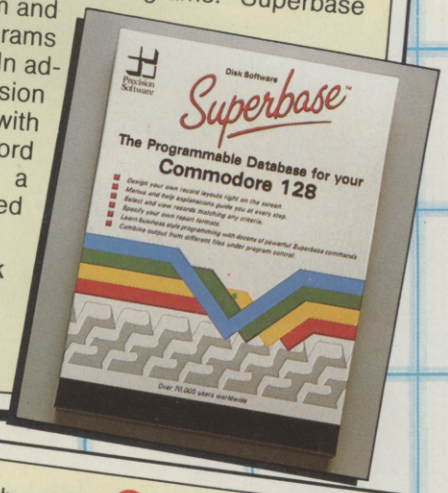

SuperDiskdoc is the ultimate Commodore disk utility program, and the best protection there is for your valuable data. Zoom in on the bytes on your disk, interpret them in hex, ascii or plain English, make any changes you want, then replace them. SuperDiskdoc brings you extra security. You know that in the event of an accident to your data you have the best tool available to repair the damage.

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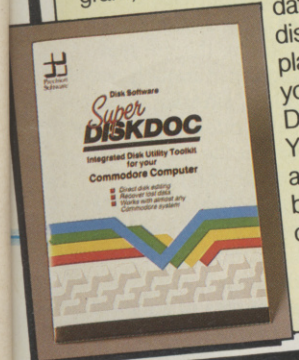

The in-depth guide to using the Superbase system, from first steps through to advanced programming techniques. The wealth of hints, tips and practical examples makes *Superbase*: The Book required reading for anyone working or contemplating working with Superbase.

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CG '88

From £1.50 to amounts that sound like telephone numbers. . . From professional cartoons on the Amiga to a pen called Max, Daphne Moss discovers a show with the graphics to technicolor our future.

Ghoulies, ghosties, long-leggedy beasties, flying logos, space satellites, talking pens and artist's palettes that will never see a tube of paint. All these and more were on show at the Computer Graphics 88 Exhibition at Wembley in October.

It was an eye-opening, hands-on glimpse of the present and the future as it will relate to engineering design, advertising campaigns, board room presentations, video films, in fact anything and everything which has a link with graphics in any shape or form.

On display were complete systems that start from as little (!) as £5,000 and others that go on up to amounts that sound like telephone numbers, single programs that were (relatively) inexpensive and some that cost a small fortune but, almost without exception, all of them were telling Joe (and Joanna) Public that tomorrow's world is here and now is, at least, as far as computer graphics is concerned.

For example Pericom Systems was exhibiting 'MicroStation'. Running on MS Dos or PC Dos based microcomputers it can, at its simplest level, be used as a straightforward two dimensional draughting system. A repertoire of graphical primitives or shapes can be drawn in various colours, thicknesses and line styles, using rapid input devices such as graphic tablets, sidebar, function keys and mouse. It also offers 30 facilities, and to stand and watch the Magellan deep space satellite with all its multitudinous design intricacies appear on screen (complete with hidden line removal and two hundred and fifty six colour shades) with just a few taps at the keyboard and a few moves of a mouse is indeed wondrous. MicroStation can work on a single screen or on two simultaneously and on each screen up to four 'windows' can be displayed. I would think that for draughtsmen, architects, aerospace engineers, etc, the visuals that appear — and up to thirty-three drawing files can be displayed at any one time on

screen — enabling them to correct any design deficiencies before print-out would be worth all the cost just in saving of time, energy and tracing paper alone.

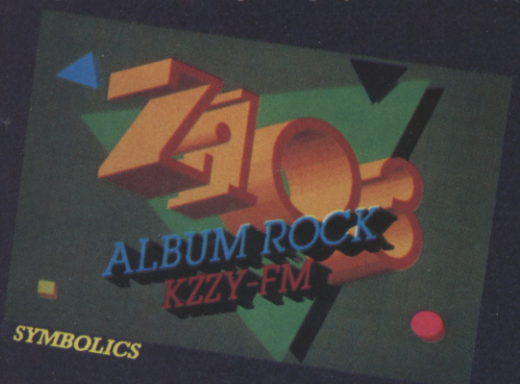
British firms spend millions of pounds every year paying for transparencies to accompany their advertising, to illustrate their wares to prospective buyers or just to make seminars more interesting to their employees, so a company with a product that seems bound to succeed is Durst (UK) Ltd. Durst are distributors for Creation-Station, developed by American-based Images 11, inc. This is a presentation graphics system with which companies can not only design their own graphics on screen but, when they have the picture which satisfies them, can then, with the aid of a Honeywell film recorder, make their own slides. What is astonishing is that the time it takes from the beginning of the operation to the finished product is a matter of minutes. Well, that is, if you're familiar with the program and for the (approximately) £22,000 odd that it costs they throw in a demonstrator who will be with you for five days to enable you to get to know the package intimately.

CG '88

Letraset, they of the rub-down transfer letters, have another kind of package. Their 'Illustrator TDI-4014" is, they say, the first PC computer graphics system that provides total design and illustration facilities, and some of the designs produced were extremely good. The on-screen definition was very clear and although when produced on thermal paper the results were a little disappointing, the slide reproductions had absolute clarity on a par with what was represented on the monitor.

"At £51,500 it's not the sort of paintbox you'd give Junior at Christmas".

One of the most spectacular displays was at the AVS Graphics stand. Their 'Artmaster', a sophisticated, fully integrated electronic 'painting' system enables designers to work not just with an airbrush but to diversify into 'chalk', 'solid', 'tint' and 'merge' as well. It combines 2D video painting with 3D effects, has a selection of type faces and fonts to accompany the graphics with text, and can mix the colours on-scsreen, using an electronic palette which allows the user to blend any of the primary colours either as a conventional artist would or — by using the system's automatic MIX function — to produce an infinite number of colours, rather like the paint mixing machines in a DIY store. The graphics are produced by using a pressure sensitive pen and a digitizing pad and, to cap it all, there a number of



SYMBOLICS

CALCOMP

CG '88 CG '88

LETRASET

cont. on next page

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CG '88

brush 'sizes' for each of the classifications just as there are for the ordinary manual artist. At £51,500 it's not the sort of paintbox you'd give Junior at Christmas, but for television and professional video companies the design capabilities are as infinite as the Artmaster's colour possibilities.

Talking about Junior and Christmas brings me to the Commodore/Amiga stand. Here I saw what any creative, artistic, kid would give his eye-teeth to own. A make-your-own-cartoon-film package that could turn any small sketcher into a veritable Walt Disney. (Or, maybe, I should say Charles Schultz, for the when I was there the demonstration on-screen was Snoopy).

It's called — at the moment, anyway — the Studio Line Test System. I say 'at the moment' because Commodore were apparently caught on the hop with this exhibition. I was told that at first they didn't intend to be there at all but, a few days before the opening they were telephoned and asked (nay, begged) to come along and so they decided to launch this new system at Computer Graphics 88 although they had nothing printed about it, no information for prospective purchasers, no prices and, it seems, were noit even sure if Studio Line Test is going to be its eventual name. Unfortunately, due to the lack of written information, I wasn't able to learn much

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ARTMASTER — AVS GRAPHICS

LETRASET

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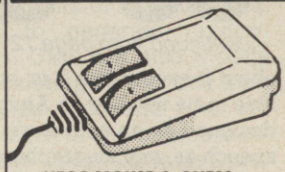

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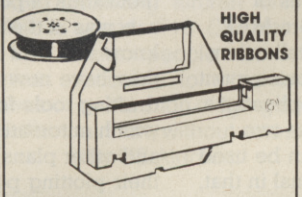

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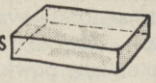

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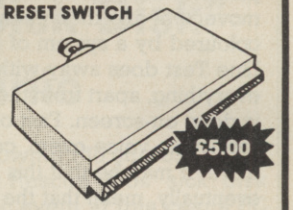

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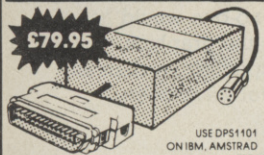

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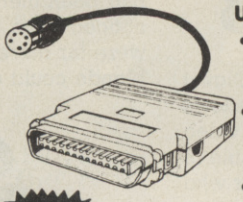

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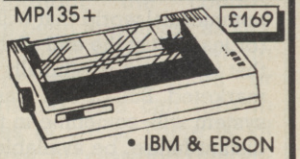

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CG '88

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about it except that it is, at present, only able to be used on an Amiga PC, that it is designed as an animator's tool, it has speech as well as graphics, the software package is two disks and a digitiser and it will cost around £6,000 and will be able to be leased or bought.

"This system will, sometime in the not-too-distance-future, be available for all Amiga users for they are hoping to produce a version for the private Amiga user".

It's a shame that the printed word cannot show you how sensational this system is to see. As far as I could observe it works something like this. . . After deciding what form the film will take the operator transfers the image from paper to screen and from then on all the animation is done on the computer. When a normal cartoon film is made the animators have to laboriously draw each picture frame by frame to simulate movement and then each frame is coloured by a system of overlays. Studio Line Test does away with all that for everything, apart from the initial drawing, is done on-screen. Fast or slow animation, voice-overs, colour, it's all there. It may be that this package will, eventually, mean that the many manual animators employed by film companies such as Disney and Hanna-Barbera will become redundant, I would think the possibilities of this system are endless for the cinematic word. And it IS only the commercial world that will be able to buy (or lease) it at the end of this month — for that is when it is officially due to be marketed. But, or so I was told, this system will, sometime in the not-too-distant-future, be available for all Amiga users for they are hoping to produce a version for the private Amiga user and, in particular, a children's version on which little Johnny or Jane can work straight from a palette on to screen. One of the other advantages of this system is that once the film is made it can be shown on a video just like a conventional movie. From the amount of people clustered around and on the Commodore/Amiga stand at the Exhibition, and I'm sure there were more there than on any other stand, it is obvious that the interest generated by this new product will be pretty big, to put it mildly.

So, what else did I see that I thought was interesting?

Many of the exhibitors were American or European but one UK company were Terminal Systems Ltd. They are based in Blackburn and have a combined pen and digitizer — again an Exhibition 'launch' — called MAX. (No reflection to our eminent Marketing Manager!) MAX, or Multi Axis Stylus, is no ordinary stylus and the digitizer is no ordinary board. Together they are capable of delivering up to six independent positional movements, (or 'degrees of freedom'), into any computer application, which is three times as many as traditional digitizers provide. Locating the MAX stylus anywhere within the active volume of the digitizer causes data proportional to all six degrees to be simultaneously transmitted. Additional bonus information is also available from an impulse data, which comes from an accelerator inside the stylus, and from optional switches which can be connected to MAX. The degrees of freedom and data available from MAX make it — I feel as if I should call it 'him'! — a potentially powerful computer input peripheral for many current applications. The stylus part of MAX also has two 'eyes', coloured LEDs which can be used as user 'prompts'. MAX is unusual in that, because of the six degrees of freedom, it allows the operator to create objects with extreme precision, more so than with an ordinary 'pen', also the use of 'knob boxes' normally associated with graphics work stations can be largely avoided by acting on data available from MAX itself. Not only that but Terminal Display Systems can customise the digitizer to the client's own requirements ie, an architect can have different 'boxes' to an aeronautical engineer. From a very small start (in a garage, would you believe?), some fifteen years ago TDS now develops and builds, in the UK, digitizers and colour display terminals for export world-wide.

CG '88

Another UK firm was Advanced Digital Systems a graphics system which allows the user to create slides, prints and video tapes of very high quality. It is capable of displaying 32,768 colours, (I wonder who counted them?), has a video camera input and frame buffer, a very fast 2D paintbox system and a 12" digitiser tablet. Not only do Advanced Digital Systems sell the hardware and the software but they also give a system support and will train an operator and provide attendance on site for some days after delivery.

All the systems mentioned above, by the way, are IBM PC compatible, and can be run on Commodore machine.

So, you've purchased your graphics system your operator is trained, but she/he is not, perhaps, capable of teaching anyone else. To whom do you go? Fear not, for at CG88 there were companies who specialise in graphics training only waiting for you to sign up, not for only graphics but for Desk Top Publishing, word processing, spreadsheets or a just a general introduction to PC's and DOS. London-based 'Prince Training' will train on-site or at their training centre for any or all of the programs. Or, if you've been far-sighted enough you will have employed graduates from one of the colleges or polytechnics that have degree courses in computer-aided graphics — Teesside Polytechnic has several as has Middlesex Poly.

CG88 was however not all programs, digitizers, workstations, etc, selling for thousands of pounds, the cheapest thing I saw was at the Staedtler stand. Most of us know this firm for pens and pencils and they have now updated their range of drafting tools for Plotters, (the machines which automatically draw architectural and other plans), and the starting price of their plotting pens? A mere £1.50. What you see at shows like CG88 is mostly leading edge, state-of-the-art stuff. But the products are in this technologically accelerating world, as the Amiga demostrates, only a short distance from out own computers and videos. It was certainly an exhibition worth seeing, well laid out, plenty of room between the stands and, for a change, most of the people on them seem to know what the products they were exhibiting actually did. I have been to some shows where the stands where awash with blonde bimbos who did nothing but stand around looking bewildered. As a matter of fact I heard one guy complain because he hadn't seen any beautiful blondes around at this exhibition. I think that even if they had been there no-one would have noticed them — the graphics on view were far more spectacular than any blonde could ever have been.

D.M.

'O, pooh! boating! Silly boyish amusement.' No, I've discovered the real thing, the only genuine occupation for a lifetime. Come with me, dear Ratty and I'll show you my new Artisan system.

D.I. Flies High

Digital Integration are releasing F16 Combat Pilot.

The F16 fighter is one of the most advanced multi-role fighters in the US Airforce's armoury. F16 Combat Pilot is the culmination of considerable in-depth research collated from informed civil and military sources to make the product as realistic as possible.

This fighter plane has five major roles, air defence, battlefield support, offensive counterair, interdictor strike and reconnaisance. F16 Combat Pilot can simulate all of these roles, from scrambling and desperate dog fights in air defence to tank busting in battle support. Alternatively, the player can be the intelligence gatherer with a reconnaisance flight or hit the enemy hard with an interdictor strike on a strategic target.

Four programmers and graphic artists have been working on developing the product. Dave Marshall, who is ultimately responsible for its realism, was the author of Tomahawk and Fighter Pilot and has considerable flying experience.

F16 Combat Pilot will be available on IBM at £24.95 and on the Commodore 64 disk or cassette for £19.95 and £14.95 respectively. An Amiga version will follow later.

Dave Marshall commented: 'Many people have an ambition to be a pilot, although few ever realise it. Without doubt the F16 is the most challenging and exciting aircraft to fly in the world. F16 Combat Pilot will take people as close as possible to experiencing the exhiliration of flying this superb aircraft, without actually joining the US Airforce.'

U.S. Gold's Dungeon Masters Assistant

U.S. Gold are releasing a utility program designed to help Dungeon Masters generate encounters for AD & D campaigns — quickly and easily! Encounters is a great time saver for Dungeon Masters. With thousands of separate encounters, monsters and characters provided, it can reduce game preparation time by several hours per session.

The database is prodigious indeed: Over 1000 encounters and over 1300 monsters and characters, monster records and encounter printouts total several hundred pages! The Dungeon Master can specify encounters or ask the Assistant to generate random ones. DMs can also modify the existing data or add their original monsters and encounters to the database.

With this versatile product, the computer takes over most of the number crunching work that the DM used to have to perform. Its bookkeeping capabilities include listing all armour and weapons carried by each monster as well as automatically assigning number and type of spells to spell-using monsters. For every encounter, this utility will total treasure and experience points for each monster group. By harnessing the power of the computer, this program makes it practical to use the vast number of monsters and encounters created for AD &D game play. For 64 and PC.

Hacking not a crime?

The Law Commission has opened up the debate on whether computer hacking should be treated as a criminal offence by publishing a working paper discussing possible changes to the law.

At present, hackers can only be successfully prosecuted if they damage a computer or instigate a fraud.

Points in favour of new laws include standardisation with countries such as the US, Canada and France. Also legitimate users may be deterred from using computers to store information unless they know that unauthorised viewing will result in prosecution.

Arguments against criminalisation include the difficulty of enforcing such a law and the fact that penalties for theft and fraud by computer already exist.

The Scottish Law Commission recommended in June 1987 that a specific offence for computer hacking be introduced with a maximum penalty of five years imprisonment. But no steps have been taken yet to implement the recommendations.

The Law Commission is inviting comments and recommendations by 28 February 1989.

Mirrorsoft is "Sick Disk" Clinic

Following the success of the File Rescue Plus sick disk clinic event at this year's PC User Show, Mirrorsoft's has decided to "go national" for the health of disks.

Dealers in major centres throughout the country have been appointed as sick disk clinic sites, to whom users with corrupted or damaged data can turn in times of crisis. There is, of course, no cast-rion guarantee that the File Rescue Plus treatment will succeed — but if everything else has failed, there's nothing to lose by giving FRP a chance.

The participating dealers have been trained in the air of making an initial "disk diagnosis" over the telephone to ascertain whether the user's data in question is still rescuable, and to demonstrate the rescue process to the customer.

Contact: Mirrorsoft 01-377 4637.

AMS Mouse for Stilton cheese?

AMS, the company behind the successful AMX Mouse, are offering a prize to the 100,000th person to buy one of their mice. It is estimated that the sale will be made during December. The prize will consist of a Christmas hamper from Fortnum and Mason comprising: two bottles of champagne and a bottle of ruby port, and lots more Xmas-style goodies including Stilton cheese.

The AMX Mouse which was first launched in the UK 4 years ago. Currently sales have passed the 90,000 mark and a projection means that AMS will be shipping out their 100,000th Mouse shortly. AMS intend to monitor this Mouse so that they know which retailer is selling it. This location will be kept secret from all but the actual shop and distribution company until the lucky winner purchases the product. A fanfare will sound and the shop manager will present the winner with the prize.

The AMX Mouse is compatible with the Commodore 64 and 128. The mouse comes bundled with Stop Press, the excellent desktop publishing package which is acknowledged by many to be the best DTP package on these machines for the education and home market. The AMX Mouse has produced the standard interface for mice on these computers and there are many software packages from third party developers which are compatible with the AMX Mouse.

Stop Press for the Commodore 64 and 128 cost £39.99 and £69.99.

Commented AMS Managing Director, Nick Pearson. "When the 100,000th sale of the AMX Mouse is reached, we will be only too pleased to share our success with the lucky prize winner."

EPYX Home Video Producer

EPYX are releasing their Home Producer Video which lets the user create special titles and graphic sequences for adding to home videos made with a camcorder. It includes 10 fonts in different sizes and colours and over 75 individual graphics. With 'ready made' sequences the user simply fills in the blanks — for example, the wedding sequence already includes a picture of a bride and groom, picture of the wedding cake etc — the user just fills in the names of the bride and groom, date etc.

Special effects include nine way wipes including a spiral wipe, four way scrolls and variable speeds. The user can position each item anywhere on the screen. The interface is highly graphic, the user clicks on icons or pictures that represent the commands — no complex keystrokes to remember.

Home Video Producer livens up home videos and adds colour graphics and text for a more professional polish with large, full colour graphics and special effects. Also full page scenes (6) and borders (8). Add whatever titles you wish choosing from a large range of typefaces, colours, sizes and place them anywhere on the screen. The inexperienced computer user can use 'ready made' sequences where they simply fill in the blanks. More experienced computer users can develop their own extensive sequences and become a 'home director'. Home Video Producer offers the owners of camcorders an new way to add excitement to their home videos — in titling, graphics and special effects. it will be released for the 64 and PC.

Printer Buffers speeding print

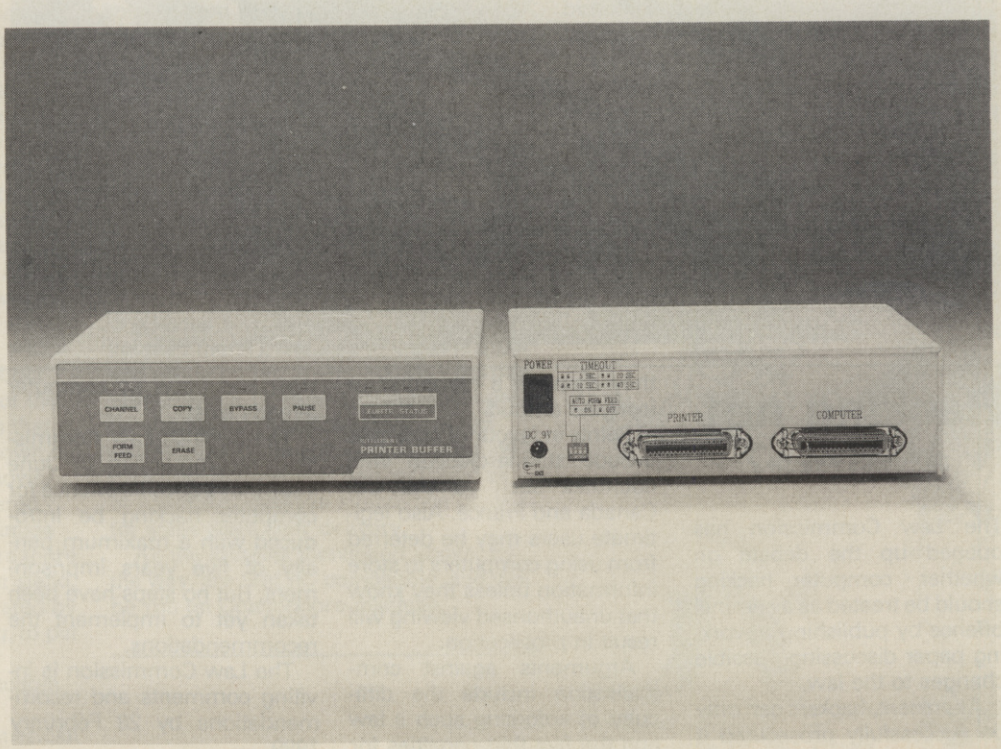
A range of printer buffer now available from Action Computer Supplies is designed to speed print throughout by allowing printer files to be downloaded from the micro at high speed, leaving it to carry on with other tasks. The files are held in the buffer, and fed automatically to the printer at the maximum speed it will accept.

Using the buffer is easy. The printer cable is simply unplugged from the micro and plugged into the buffer, and the buffer itself is plugged into the micro using an extension cable. The buffer is controlled by the normal print commands from the micro, so that its operation is completely automatic and there is nothing extra for the operator to do.

Single channel buffers, for use with a single micro and printer, are made with capacities of 64K and 128K; multi-input buffers, which will handle up to three micros, are made with capacities of 256K and 512K. All types are available in both 25-pin serial and 36-pin parallel versions.

The buffers are covered by Action's own 24-month warranty, and prices range from £125.00 for the 64K, single-channel parallel buffer, to £295.00 for the 512K, multi-input serial buffer.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL. Tel. 0800 333 333.



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New from Accolade

Accolade Inc., has announced the release of two new titles, Grand Prix Circuit, a Formula One car racing simulation, and F-86 Sabre Strike, a flight simulator.

Grand Prix Circuit offers a first person perspective view of a Formula One car as the player races around 8 international Grand Prix circuits. The game allows the player to select from 3 car configurations — each designed for a specific type of track and race against 15 other cars against drivers with varying styles. As with real Formula One racing pit stops are required and tyre changes while the clock continues to tick.

F-86 Sabre Strike is set in the year 1948. It features the first plane to break the sound barrier and to fight in the Korean war. The game features four phases; a test flight to find design flaws; Korean missions; Break the sound barrier and The ultimate mission. F-86 Sabre Strike features realistic flying sequences, cockpit and aerodynamic characteristics. Grand Prix Circuit C64-128 £9.95/£14.95, PC £24.95, F-86 Sabre Strike PC £24.95.

Capcom's L.E.D. Storm

Speed along the sky high interstellar flyovers blasting other drivers off the road in this mammoth driving combat game by Capcom. Sitting at the controls of a futuristic high powered car, aided by an on board computer which tells you what danger lies on the road ahead your mission is to try to reach the checkpoint at Sky City before your energy level gets to low. L.E.D. Storm features nine fast and furious stages each having a different theme with varying terrains, such as Ruins Desert which features statues and huge dinosaur bones and Thunder Road — a very difficult outdoor scene composed of many sheer drops.

Beware of the road hazards such as ramps, bumper boats and frogs that constantly prevent you from jumping! There are also large vehicles such as lorries that do their best to run you off the road. Flip from car to motorbike and jump the gaps where the road has been blown away — you'd better make it through, it's a long drop to the ground.

L.E.D. Storm features fast and furious action from beginning to end. Each stage will present you with a formidable challenge. Play against the computer in one player mode or select 2 player mode and start the journey of a lifetime. Capcom claims that L.E.D. Storm is THE competitive race game! (Yes, Danielle and YOU are THE PA person!) for C64 and Amiga.

Disc Company is Image 4D

The Disc Company is launching Image 4D, an innovative 3D graphic program with animation that enables users to create realistic computer animation on their Amiga computer.

"Imagine 4D is the first 3D program to offer an easy-to-use user-interface along with all the features to quickly creating long-play animations on a 512k Amiga", according to Howard Marks, Director of International Operations. The Disc Company.

Imagine 4D lets the user design 3D objects from a list of ready-made ones to use the objects provided with the 3D cli-art disk that includes an alphabet 3D font. "Image 4D is the first What-you-see-is-what-you-get 3D program," says Maths. "We call it Imagine 4D, because it let's your imagination design three dimensional scenes with motion, which is the fourth dimension."

Several features of the program include rendering in three modes, wire-frame in black and white or colour, polygons and ray-tracing. Supported graphic modes are, low-resolution, HAM and high-resolution. In the HAM mode, the user can choose colours from 4096 choices for the objects. Animations support the PAL mode along with the PAL Video overscan resolution.

Imagine 4D also offers a host of powerful features sought by professional video specialists. It supports the 68020 and the math co-processor chip. Imagine 4D outputs standard IFF ANIM files that can be used with programs such as the Director or other video show programs.

Imagine 4D has suggested retail price of £99.95. Contact: Amiga Centre, Scotland, Tel. 031-557 4242.

COMPETITIONS

Due to the Postal Strike The closing dates for competitions in the October issue will be extended by 1 month.

Microprose Go For Goal!

Microprose, usually know for high quality simulations, and just having released the awesome 'Red Storm Rising' are moving out in other directions.

They have signed up Sensible Software (Wizball, Shoot 'em up Construction Set) and are heading for a release of a football — U.K. soccer-style — game. The word is that 'Microprose Soccer' is to have two different versions, one - 11 a side for Europe and another five-a-side for the U.S.A. It will have an overhead viewpoint move fast from end-to-end with ever banana kicks. Microprose think it will take the sports fans by storm (Red Storm no doubt).

Come into my PC parlour!

Protect your PC and peripherals with a spider and a fly! They are two touch-sensitive alarms which can be fixed to a PC and cost £72 including batteries.

The Fly is a detector alarm which is triggered by the slightest movement. An adhesive pad sticks it to a PC and it is turned on and off with a security key.

The Spider is an alarm for several items — a VDU, keyboard, printer or modern. It has five 1.4-metre legs which attach to each peripheral.

Both the Fly and the Spider are available separately for £30 and £42 and are supplied by Sussex-based SBS Computer Supplies.

Marketing director Jill Wadman said: "Companies are becoming increasingly aware of the need to protect valuable computer and office equipment against thieves. We believe that these products provide users with a simple and yet cost-effective means of theft prevention."

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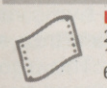

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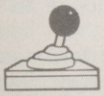

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Alternative No. 1 for the Postmen?

Alternative Software, have announced that they will be launching "Postman Pat" later this year. This will, they claim, be the first time a budget software house has acquired a licence for a computer game. The product will be designed to appeal to all age groups as in addition to the younger person's option, the game has also been written in such a way that it has serious games in mind too.

According to Gallup, Alternative have headed the U.K. open market charts 13 times in the last 15 weeks. Alternative took a market share of 16.7%, which is almost half as much again greater than the company in second place, Mastertronic, with 10.5%. This is the first time any company has knocked Mastertronic off the top spot in the total market share charts.

Postman Pat will be available for the Commodore C16 computers. It will be released for the Christmas market and Alternative are hoping for a Christmas No. 1 for this game.

Alternative are also shortly releasing Graham Gooch's Cricket a re-release of the Audiogenic classic. They are also expecting a major hit with this game especially as Graham Gooch is currently the England cricket captain. This game will be available for the Commodore 64.

Postman Pat

Piracy Preventer

RAINBOW Technologies Limited, London, a subsidiary of Rainbow Technologies, Irvine, California, the leader in software protection hardware keys, announced a multimillion dollar long-term contract with Microsoft to protect software in the international markets. Every year software developers lose hundreds of millions of dollars in research to software piracy. So more and more companies like Microsoft are starting to protect their software revenues.

Rainbow Technologies, a pioneer in the software protection industry, has convinced software developers like Microsoft that its hardware key protects software better than any any other system currently on the market.

SentinelPro, which sells for 50 dollars in wholesale quantities, runs under DOS, OS2 and on all IBM-compatible computers. SentinelPro makes use of application-specific integrated circuit technology to place all electronics on a single proprietary very-large-scale integration chip. MS-DOS developers integrate it into the source code to protect designated portions of their programs.

SentinelPro enables users to make copies, but the copies cannot run unless the SentinelPro is plugged into the printer port. During execution, the software programme repeatedly sends out a data stream to an algorithm embedded in the SentinelPro by the developers. If there is an invalid response or no SentinelPro installed, the programme can either be halted or will flash a warning message, depending on the developers' discretion.

Although software developers are the main users of the product. It is also being used for internal security by major corporations like Coca Cola and Du Pont. It is a very compatible system across a wide range of PC-compatible hardware. Pieces can be added to the source code in the program where and when the developer wants. SentinelPro, which measures 2.5 x 1.5 x 0.5 inches, is transparent to the user and functions property regardless of printer status. It has no impact on the printer operation, says Rainbow Technologies.

Contact: Rainbow Technologies, California (0101 714) 261-0288 or Slough (0753) 41278.

SUPERIOR takes over ALLIGATA

Superior Software Ltd, the leading games software house for the BBC, Electron and Archimedes computers, has taken over the Alligata label, and acquired the rights to many Alligata Software games, including: "Guardian", "Bug Blaster" and "Olympic Decathlon".

Alligata Software, which has several successes on the Commodore 64, including "Who Dares Wins 2" has been taken over by Superior Software. The Alligata logo is particularly original and striking, and was often shown with added comments, such as: "The Software with Bite".

Future releases by Superior Software for the 64 will be on a joint Superior/Alligata label

The first such release is a boxing simulation, called "By Fair Means or Foul". As well as being a boxing simulation, it also permits the boxers to cheat (head butt, knee, groin punch, kick) . . . if the ref is not looking!

The game can be played either by two players, or one player against the computer. If you succeed in the one-player game in becoming the World Champion, you can enter a prize competition.

Superior/Alligata Label. Commodore 64/128 £9.95 (C), £11.95 (D).

L.A. Crackdown for EPYX

This is the third title in the Masters Collections line of software for advanced game players. L.A. Crackdown is detective adventure that offers players a strategic challenge with a special point of view. In L.A. Crackdown players assume the role of a senior detective who must direct the actions of a promising young rookie who is hot on the heels of a major drug ring. Their mission is to stake out the Pacific Shipping Company and gather enough evidence to make a bust.

As senior detective, players instruct the rookie to photograph clues, plant bugs, tail people and question underworld characters, then follow his actions through the two video monitors installed in a surveillance van. The rookie gains in experience as he works with the senior detective and develops a real mind of his own. Sometimes he challenges the authority of his superior and gets himself into trouble. Sometimes he just quits. In any case, the action of the game is influenced by how much the rookie has learned. L.A. Crackdown will be released on the C64 and PC formats.

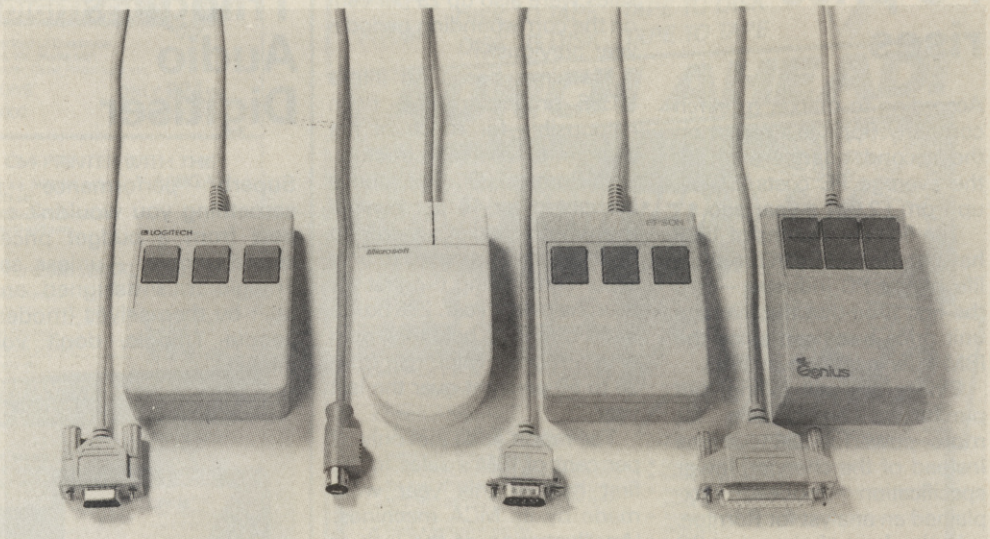
New Mice emerge

A new range of mouse packages from Action Computer Supplies includes two serial mice from Microsoft, two serial mice from Microsoft, two serial mice and one bus mouse from Logitech, an Epson bus mouse and a Genius serial mouse.

The Microsoft mice are all IBM.PC/XT/AT and PS/2 machine compatible; the Logitech and Epsom mice are PC/XT/AT compatible; and the Genius mouse is PC/XT compatible.

Price range from £60.00 for the Genius serial mouse, including the Halo drawing package, through £118.50 for the Microsoft serial mouse, with expert menu and PC paintbrush, to £177.00 for the Logitech serial mouse with Logicad CAD/CAM software.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middlesex, HA0 1WL. Tel. 0800 333 333.



(Left to right) Serial mice from Logitech and Microsoft, the Epson bus mouse, and the Genius serial mouse.

Disks fail ANSI test

Many brands of 3½" floppy disks fail the quality tests set by the American National Standards Institute (ANSI).

According to Memcon, a major US manufacturer of disk certification and duplication equipment, there is strong reason to doubt that disks are tested to ANSI standards, even though their manufacturers claim 100% certification.

The company carried out a survey of 25 brands of disk by buying quantities of ten in ten different locations throughout for US.

Only four brands of tested disks — C Itoh. IBM, Sony and TDK — passed. "It is sad to report that while Apple's Macintosh and IBM PS/2s have made 3½-inch diskettes very popular, quality simply hasn't kept up with quantity," said Memcon president Jerry Korth. The survey found there was no link between price and quality. The disks from C Itoh, Sony and TDK were all clo e to the average price.

T shirts from DE GALE

Television addicts might well be rewarded for the hours they spend watching television with an Electrocoin T-shirt. Electrocoin, the company behind Nintendo dealer De Gale Marketing, are giving away the prizes in a competition based on the fact that the Nintendo is due to appear on U.K. TV.

The Japanese company, Nintendo, are splashing out and spending over £2m in making sure everybody knows about their popular games system.

Viewers who watch programmes such as The Munsters, Beverley Hill Billies, American Football, Brookside, the Chart Show or TV AM, and who don't go into the kitchen when the ads are on, shall see the Nintendo.

De Gale marketing are giving away 20 Electrocoin Tee shirts to the first 20 entries out of the hat who list all the times they have seen the Nintendo on television in December. A note should be made of the TV channel, not just ITV but the ITV region, with the list, and sent on a postcard to De Gale Marketing, 81 Tottenham Court Road, London W1A 1EY. Entries must be received by 31st January 1989.

Jungle Book Coktel (sic!)

Active distribution LTD have scooped up the marketing and Distribution rights for the French Software House COKTEL VISION. COKTEL VISION have the rights to the Walt Disney licence — JUNGLE BOOK.

"Jungle Book is a classic film which appeals to both young and old. Walt Disney are re-promoting the film again this Christmas, which will ensure a high level of produce awareness," said Robert Stallibrass of Active.

Future titles include FREEDOM, TERRIFIC, PETER PAN and EMANUELLE for the C64 and Amiga. Peter Pan and Emanuelle? That's an odd couple isn't it? Still it sounds fun. We can hardly wait for that Coktel!

Amiga stars in Liverpool Soap

No not TV melodrama — this soap is manufactured in huge quantities at Lever Brothers' brand new £12 million plant at Port Sunlight, Merseyside in the north of England.

The new site has the capacity to produce a staggering 500 million tablets of soap each year. To help keep everything under control, Lever Brothers has installed an impressive computerised production system.

The system monitors every aspect of soap production. 'Raw' data is first gathered by Programmable Logic Controllers (PLCs) which are attached to hundreds of flow controllers, thermometers etc. This data is then networked to the supervisory systems where it is processed for management reports.

The unusual aspect of the system is that the DEC supervisory system also uses the raw data as input to an array of more than 20 Commodore Amiga. The Amigas are used by plant controllers graphically to display the plant's production processes in real time.

Using Nucleus Software's Dexterity package, the controllers are able to call up representations of the plant's lay-out to pin-point any problems and maximise production efficiency. This new approach is a simple alternative to large panels of flashing lights and dials.

PC price rises

According to market research company Romtee's report on the second quarter of 1988, the average PC costs £2,450, up from £2,014 a year ago.

The first six months of 1988 have made history in the short life of the PC industry — it's the first time that the average unit price has risen since the IBM PC's inception in 1983.

'Prices are still falling, but purchasers are opting for more powerful 386 systems instead of the cheaper, lower specification models,' explained an analyst for Romtee.

In the face of changing PC expenditure the market has still grown by 55 per cent during the last year in value terms, states the report. In the six months to June 1988, unit sales were also up 29 per cent on the corresponding period a year previously.

Machines based on Intel's 80386 processor have been responsible for much of the change in market structure, says Romtec. 386 boxes have accounted for 16 per cent of the whole market's value so far this year, compared to only 3 per cent during the first six months of last year. 286 boxes have, however, held their own with a market value rise from 38 to 50 per cent over the last year.

The report adds that only 52 per cent of IBM's sales in the first half of this year were made by its MCA machines: 'An illustration of the lack of success of the MCA range and of how many of the old AT machines are still in distribution channels,' said Romtec's analyst.

Trilogic's Audio Digitiser

Superb performance is something you wouldn't expect from a budget priced sound sampler — unless, say Trilogic it is designed and built by themselves (modest people Trilogic, don't you think?).

The sampler features an adjustable input level, and an overload indicator to enable 'perfect' results every time. No software is supplied, since the Digitiser works well with most readily available commercial software including Audiomaster, Prosound, Perfect sound etc. Supplied with connecting lead on instructions for £24.99.

Contact: Trilogic, Unit 1, 253 New Works Road, Bradford, BD12 0QP. Tel. 0274-691115.

Electronic Arts UK games

Electronic Arts has announced the release of three programs developed by U.K. artists. Fusion, an arcade/strategy game, by Bullfrog Productions, will be the first original title released in the U.K. in September for the Amiga. Powerdrome, a futuristic racing simulation by Michael Powell, and Chainsaw Warrior is the official version of the Games Workshop solo role play board game of the same name. It is being developed by Equinox and will be an early 1989 release across the C64/128, Amiga and PC formats.

Fusion is an arcade/strategy game, with detailed animated graphics, full 8-directional parallax scrolling, varied levels and music and digitized sound effects, processed with a professional drum machine.

Powerdrome is the first computer entertainment project of artist Michael Powell. Michael, a university graduate, was working as an engineer in a steel works when he approached Electronic Arts with his idea for a fast-moving, all-action futuristic racing simulation. Powerdrome gives the player the chance to become a jet racer pilot competing in the Powerdrome XXIV against four pilots from other galaxies. At stake is the coveted Cyberneufe Trophy. Powerdrome features 3D graphics which create an effect of speed and realistic sound effects of engines roaring, competitors screeching past and crashes and bangs as the five yet racers fly around the course. A special feature of Powerdrome is a two player option via a dual data link between two machines which allows the player to race against a friend.

Equinox, the developers of Chainsaw Warrior, was formed by Gary Yorke and James Poole in July 1987. Its aim was to produce complex strategy/simulation software whilst exploiting the graphics and sound capabilities of the new generation of computers. Gary has worked in the entertainment software industry since 1981, while James's background is in business software for the surveying industry. The two teamed up at Ariolosoft in April 1986 where they ran the technical and project management side of the company.

The Game Show Game

Welcome to "The Bobby Yazz Show". Congratulations you have been chosen to be a contestant on "The Bobby Yazz Show". Where the host with the most . . . The man who can . . .The one and only Bobby Yazz aided by his luscious assistant Linda . . . will guide you through your trials and tribulations on the Deadliest game show of them all!!! (This is what Big Apple says about it!) "Thrills and Spills abound in the fastest of game shows! Marvel at the stunning graphics! Be amazed at the sheer size of the game! Hum along to the wonderful signature tune! To the victor fame and glory . . . but to the loser . . . death! All On . . . 'The Bobby Yazz Show'. The only game show to bring you commercial breaks in between levels. Time to make that all important cup of tea!" (Time to switch off?) Commodore 64 £9.95.

Chainsaw Warrior is an arcade action game where the player is a lone warrior who enters a haunted mansion to find "darkness". Darkness is a huge amorphous cloud of chaos which emits a strong radiator field. It can not be engaged in hand to hand combat, but has a nerve centre from which attacks are launched against the player. This nerve centre is the only vulnerable spot. The player must search the mansion room by room, fighting various rats, assassins, zombies and avoiding traps and pits, hiding and even running away when the occasion demands it.

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MODULATOR EXTENSION LEADS	MEL 1	**ONLY £8.99**
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Virus reaches East

The first recorded computer virus in a Japanese bulletin board has been discovered in NEC's PC Van network.

A hacker is suspected of sending what appeared to be a free software program that users could download.

Once the program was activated it transmitted the users 'bulletin board identification number and password to a mailbox that the hacker used to gain free connect time and order goods.

The Keys to Passion!

Canadian computer suppliers are opposing plans to change international standard keyboard layouts. The Canadian government wants the country to standardize bilingual computer keyboards, mainly for the benefit of users in Quebec and Ottawa, where the French language dominates. But Barry Cadloff, manager of technical services at Harco Enterprises, a distributor of micro products, said of the proposals: "They are going to go down like a lead balloon. There are more keys, which will drive people crazy."

The proposed standard has five keys for French accented letters. At present some computer suppliers incorporate French language keys into their designs while others use the traditional layout.

US computer manufacturers believe that the standard would be useless outside Quebec and Ottawa.

Alain LaBonte, a Quebec government representative said: "Never would one have expected so much passion . . . for a few keys."

INFOCOM'S Revolutionary RPG

The Time: The 31st century. The Place: CHARVA IV, a hunk of rock with the area's only water-processing plant. The Challenge: To defend the planet against invasion and destruction. The Hero: YOU . . . in the role of Jason Youngblood, an 18 year old BattleMech warrior cadette. The Game: BATTLETECH: THE CRESCENT HAWK'S INCEPTION . . . the first animated and largest computer role playing game available with enough action, scope, and intrigue to keep any player thoroughly enthralled from beginning to end!

BATTLETECH, Mediagenic tells us is a revolutionary new role playing adventure game, represents a collaboration of some of the greatest names in computer entertainment. Based on the immensely popular series of entertainment products from FASA Corporation, THE CRESCENT HAWK'S INCEPTION is an original, richly detailed story set in FASA's Battle Tech universe.

Infocom has also joined forces with the computer wizards at Las Vegas, Nevada-based Westwood Associates, who are among the most acclaimed role-playing and graphic designers, to produce what Mediagenic insists is 'one of the most enthralling, action-packed, state-of-the-art role-playing adventure games ever!'

BATTLETECH, they say is the largest computer role playing game ever, boasting a geography of over four million locations over which your party may travel. If you should prove to have the stamina to cover the enormous territory that lies ahead of you, you will be properly rewarded at the end of the game.

Unlike most computer role playing games, BATTLETECH is rich in storyline and plot, true to Infocom's reputation as the Master Storytellers. Whereas most computer role playing games are little more than "hack-and-slash" affairs, BATTLETECH offers an intricately-woven and meaningfull storyline.

As if this were not enough, Infocom has added a dimension that they believe has never before appeared in any computer role playing game: emotive outtakes. Spectacularly animated graphics executed in the style of Monga, a type of Japanese comic, emotive outtakes display emotive responses of the characters as well as zoom in on particular battle action sequences in the game. They think you will feel as if you have been thrown into the middle of the battlefield, going head-to-head with an enemy BattleMech!

BATTLETECH also includes features typical to standard role-playing games. It offers as many battles as you could wish for as well as such features as skills enhancement (ie. weaponry and intelligence), the acquisition of hardware and equipment, and, tactical combat.

BATTLETECH will be available on the IBM and 100% IBM-compatible versions later this year. The Commodore 64 version will be available early in the new year.

A Munster hit?

A new label called Again Again intends 'to produce games which are so addictive that everyone will want to play them again and again and again'. The company's sister label is Alternative Software. Again Again's first computer game is 'The Munsters' based on the popular TV programme.

The programming team is Teque who were responsible for Terremax etc. and whose two star programmers, Peter Harrup and Shaun Hollingworth, were responsible before that for many more hits.

The TV series, which features an average family of werewolves, vampires and a man-made man, has withstood the test of time to maintain its success for almost two decades. Herman Munster, the head of the family, is the ultimate in spare part surgery and his wife, Lilly, is the daughter of a vampire so it is no wonder that their child, Eddie, is a crazy mixed up kid. The fourth member of the family is Granpa, Lilly's vampire father and oldest blood relation by several hundred years. He spends his retirement pottering about in the basement concocting various potions and stirring up trouble for Herman.

Again Again will be releasing the family on an unsuspecting world in mid-November as an arcade game which, Again Again believe is guaranteed to be a Munster hit on all formats.

Commenting Herman said: 'I am absolutely delighted at the prospect of seeing a game featuring normal people for once.'

This game will be available for the Amiga at £24.99 and the Commodore 64 at £9.99. Release date: mid-November.

Hypercube Launch

US space agency Nasa is building a 'hypercube' computer that will process two billion floating point operations a second (gigaflops). A hypercube is the simplest computer architecture for interconnecting large numbers of processors.

The Mark III 128-node hypercube is based on Motorola's 32-bit 68020 processors also used in some Amigas. Previous models, based on Intel's 80386 32-bit chips, achieved 1.2 gigaflops. Jim Youngblood, market development manager at Titan Corporation — awarded the contract by Nasa to develop the Mark III — said the machine will be delivered to Nasa's Jet Propulsion Laboratory by the end of 1988. And it proposes to market the Mark III in early 1989.

Problems that had to be overcome in development included the difficulty of writing software and communications obstacles. To speed communications between hypercube nodes, JPL developed a very large-scale integration chip capable of passing messages in 700 nanoseconds.

NEW

MICRO BLASTER

REPLAY® PROUDLY PRESENTS...

The New Microblaster Joystick, professional arcade quality, fully microswitched for the ultimate in game control.

ORDER TODAY AND TAKE CONTROL!

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FEATURES INCLUDE

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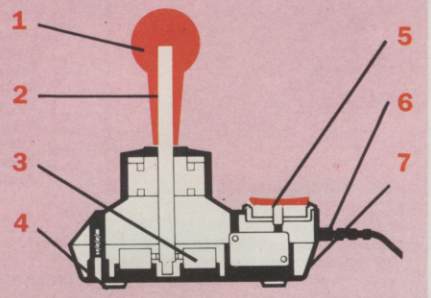
2. Steel shaft for extra strength & durability.
3. 8-way arcade quality microswitches giving greater sensitivity and precision controlled movement.



4. Non-slip rubber feet on base for secure table mounted operation.
5. Large, dual-fire microswitched fire buttons for left or right hand operation.
6. Extra long 1.4 metre cable allows more choice of player position.
7. Switchable normal/rapid fire options for extra player control and higher scores.

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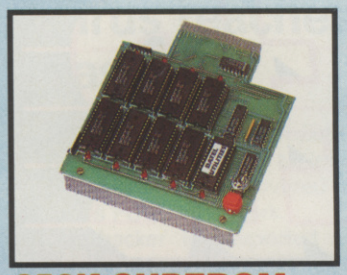
DATEL ELECTRONICS



256K SUPEROM EXPANDER

- ❑ Select instantly from 8 sockets which accept up to 32K EPROM each.
- ❑ Program your own EPROMs using our EPROM programer.
- ❑ No need to have lots of cartridges - just make a selection from the Superom menu.
- ❑ Fully menu driven on power up.
- ❑ Select any slot under software controls.
- ❑ Unique EPROM generator feature will take your own programs - basic or m/c & turn them into autostart EPROMs. (EPROM burner required).
- ❑ Accepts 2764/27128/27256 EPROMs.
- ❑ On board unstoppable reset.
- ❑ On board operating systems - no programs to load.

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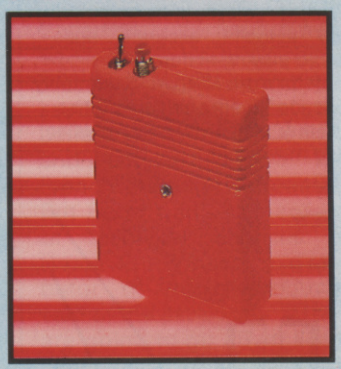

RESET CARTRIDGE

- ❑ Unstoppable reset button. NOTE:- user port cheaper type reset buttons offered by others are not unstoppable.
- ❑ Resets even so called "unstoppable" programs.
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- ❑ Fits in cartridge port.
- ❑ Simply plug in.

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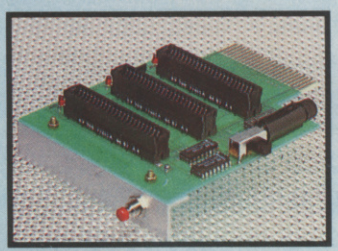

3 SLOT MOTHERBOARD

SAVE WEAR & TEAR ON YOUR EXPANSION PORT

- ❑ Accepts 3 cartridges.
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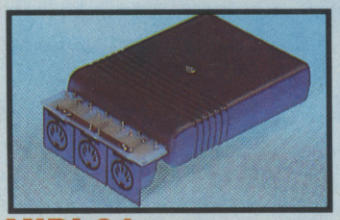

MIDI 64

FULL MIDI INTERFACE FOR THE 64/128 AT A REALISTIC PRICE.

- ❑ MIDI in/MIDI thru/2 x MIDI out.
- ❑ Compatible with most leading software packages.

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DIGITAL SOUND SAMPLER

- ❑ The new sampler allows you to record any sound digitally into memory & then replay it with astounding effects.
- ❑ Playback forwards/backwards with echo/reverb/ring modulation.
- ❑ Now with full sound editing module to produce outstanding effects.
- ❑ Full 8 bit D to A & ADC conversion.
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- ❑ Up to 8 samples in memory at one time.
- ❑ Tape or disk (please state).
- ❑ Complete software/hardware package.

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COM-DRUM

DIGITAL DRUM SYSTEM

- ❑ Now you can turn your digital sound sampler into a digital drum system.
- ❑ 8 digital drum sounds in memory at one time.
- ❑ Complete with 3 drum kits.
- ❑ Real drum sounds - not synthesised.
- ❑ Create superb drum rhythms with real & step time.
- ❑ Full editing. Menu driven.
- ❑ Output to hi-fi or through TV speaker.
- ❑ Load/save facilities.

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STATE TAPE OR DISK

COM-DRUM EDITOR

- ❑ 24 drum sounds supplied on disk to enable you to construct your own drum kit.
- ❑ Re-arrange sounds supplied with a Com-Drum to make new kits.
- ❑ Load/save facilities.

ONLY £4.99 DISK ONLY

DATA RECORDER

- ❑ Quality Commodore compatible data recorder.
- ❑ Pause control, counter, etc.
- ❑ Suitable for 64/128
- ❑ Send now for quick delivery.

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DEEP SCAN BURST NIBBLER™

- ❑ The most powerfull disk nibbler available anywhere, at any price! Burst Nibbler is actually a two part system - a software package & a parallel cable to connect the 1541/ 1570/1571 to 64/128 (state type).
- ❑ What gives Burst Nibbler it's power? Conventional nibblers have to decode the data from the disk before it can transfer it using the serial bus - when non standard data is encountered they are beat. Burst Nibbler transfers data as raw GCR code via the parallel cable without the need to decode it so you get a perfect copy of the original.
- ❑ ● Will nibble up to 41 tracks ● Copy a whole disk in under 2 minutes ● Full instructions ● Regular updates - we always ship the latest ● Fitted in minutes - no soldering usually required ● Full or 1/2 tracks ● No need to buy parallel cable if you have Disk Demon/Dolphin etc. ● Cable has throughbus extension for other add ons.
- ❑ Wether to choose FastHack'em or Burst Nibbler? Fast Hack'em is unbeatable value as an "all rounder" - with nibblers, 1 or 2 drive copy, format, file copy, 1571 copy etc. etc., so if you have a more general requirement perhaps Fast Hack'em is for you. Burst Nibbler is a pure nibbler second to none, for the reasons stated. So if it's just making backups you are interested in, there is no other product to beat it!

ONLY £24.99 COMPLETE

SOFTWARE ONLY £12.99 **CABLE ONLY £14.99**

ROBOTEK 64

MODEL & ROBOT CONTROL MADE EASY.

- ❑ 4 output channels - each with onboard relay.
- ❑ 4 input channels - each fully buffered TTL level sensing.
- ❑ Analogue input with full 8 bit conversion.
- ❑ Voice input for voice control.
- ❑ Software features:- test mode/ analogue measurement/voice activate/digital readout etc.

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INCLUDING HARDWARE/SOFTWARE/ MIC. ETC,(STATE TAPE OR DISK).

TOOLKIT IV

THE ULTIMATE DISK TOOLKIT FOR THE 1540/1541.

- ❑ A disk toolkit is an absolute must for the serious disk hacker. Toolkit IV has more features than most for less.
- ❑ DISC DOCTOR V2 - Read & write any track & sector including extra & renumbered tracks. Repair damaged sectors. Look underneath read errors.
- ❑ HEADER/GAP EDITOR - Decodes & displays ALL header information including off bytes & header gap. Rewrite the entire header & header gap. Renumber sectors. Also edit any sector tail gap.
- ❑ DISK LOOK - Sort directory. Recover lost files. Display file start /end addresses. Disassemble any file program directly from the disk to SCREEN or PRINTER including undocumented opcodes. Edit Bam.
- ❑ FILE COMPACTOR - Can compact machine programs by up to 50%. Save disk space. Compacted programs run as normal.
- ❑ FAST DISK COPY - Copy an entire disk in 2 minutes or less using single 1541.
- ❑ FAST FILE COPY - Selective file copy. Works at up to 6 times normal speed.
- ❑ FORMATTER - 10 second format an entire disk or format any individual track or half track 0 to 41. Re-defin any of 30 parameters to create or recreate unique disk formats.
- ❑ ERROR EDIT - Quickly find & recreate all read errors including extras & renumbered tracks or sectors & half tracks from 0 to 41. Even recreates data under errors & allows you to redefine any necessary parameters.

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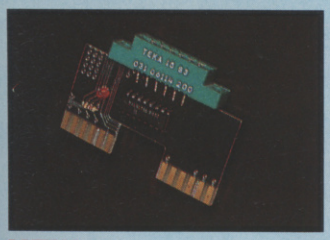

NEW CLONEMASTER

- The most effective tape to tape back-up board available.
- Makes perfect backups of your tapes easily & effectively!!
- No user knowledge needed at all.
- On board TTL logic circuitry actually shapes the program & sends a perfect signal to the record cassette - producing a copy better than the origional in many cases.
- L.E.D. indicator shows when data is being transferred to avoid exessive tape winding.
- Works with almost any program including multi-loaders, turbos & even very unusual type turbos.
- Requires access to two CBM compatible data recorders.
- Simply press 'Play" on one recorder & press 'Record' on the other - that's it!
- You can even make a backup while you are loading the program.
- This is a total hardware solution - no programs to load - the results are stunning!

ONLY £9.99

TURBO ROM II

TURBO ROM II IS A REPLACEMENT FOR THE ACTUAL KERNAL INSIDE YOUR 64. IT PROVIDES SUPERFAST LOAD/SAVE ROUTINES.

- Loads most programs at 5-6 times normal speed.
- Saves at 5-6 times normal speed as well.
- Improved DOS support including 10 sec. format.
- Programed function keys:- load, directory, old, etc.
- Return to normal kernal at a flick of a switch.
- FCOPY-250 block file copier.
- FLOAD-special I/O loader.
- Plus lots more.
- Fitted in minutes - no soldering usualily required. (On some 64's the old ROM may have to be desoldered).

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BLUE CHIP DRIVE

- External power supply for cool operation.
- Even works in 1571 double sided mode (128 mode).
- Fully C64/128 compatible.
- This drive is now probably the most compatible drive available for the Commodore. More so than even Commodores own '1541C'.
- Supplied complete with all cables - no more to buy.
- At last, a top quality drive at a sensible price.

ONLY £129.99

ADD £5.00 FOR COURIER DELIVERY

ULTRA CRUNCHER

- The ultimate cartridge based program compactor.
- Compacts by up to 30%!
- 3 compacting programs on one cartridge.
- Fast loading/saving routines.
- Full DOS support including fast format.

ONLY £12.99 on cartridge

Available as chip only for 256K Superom Board for

ONLY £7.99

FAST HACK'EM ™

- Multi Module Disk Nibbler - all on one disk.
- Single 1541 Nibbler - Copy a disk in 2 minutes.
- Super fast File Copy - under 9 seconds typically.
- Plus unique "Parameters" mode. These files "unlock" the more heavily protected programs with a parameter for a particular brand or even single program.
- No other product is such a good "All Rounder" at this price...

ONLY £9.99

SMART CART

- 32K pseudo ROM.
- Lithium battery lasts up to 5 years.
- Simply load the program you require - then flick the switch. The cartridge can then be removed just like a ROM cartridge.
- Make your own cartridges including autostart types - without EPROM burner. 32K version = 4 x 8K pages.
- Some knowledge of M/C is helpful - but full instructions included.
- I/O 2 slot open for special programing techniques.

ONLY £29.99

RAM DISK

- Turn your Smart Cart into a 32K Ram/disk.
- 32K of instant storage area for files/programs.
- Disk type commands:- load, save, directory, scratch.
- Program data retained when computer is switched off!
- Full command set with instructions.

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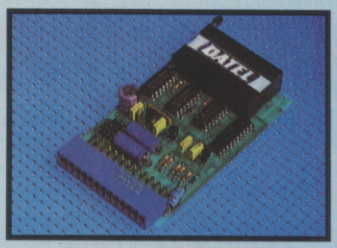

EPROMMER 64™

- A top quality, easy-to-use EPROM programer for the 64/128.
- Fully menu driven software/ hardware package makes programing/reading/verifying/ copying EPROMs simplicity itself.
- Will program 2716, 2764, 27128 & 27256 chips, 12.5, 21 or 25 volts.
- Fits into user port for maximum compatibility with cartridges/ Superom Board etc.
- Full feature system - all functions covered like device check/verify.
- We believe Eprommer 64 is the most comprehensive, most friendly & best value for money programer available for the 64/128.
- Ideal companion for Superom Board, Cartridge Development System, our kernal expanders or indeed any EPROM base project.
- Comes complete with instructions - plus the cartridge handbook.

ONLY £39.99
COMPLETE

ROBOTARM

- Explore the facinating science of Robotics with this full feature RobotArm.
- Human like dexterity - with 5 axis of movement it is so versatile. It can manipulate small objects with amazing ability.
- Comes with Accesories including 'Finger' Jaws, Magnetic Attachment, Shovel Scoop, 4 Stabilizing Suction Legs, etc.
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- Uses 4 HP2 batteries (not supplied) to power motor movement so uses no computer power.
- Self contained, ready to use (except batteries, joysticks).

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INTERFACE OFFER

- Unique Software/Hardware package to allow you to interface your computer with the Robotarm.
- Train mode allows you to store & then repeat movement sequences.
- Very easy to use.
- This interface isn't needed to use the Robotarm but interfacing with your computer has great possibilities.

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EXTERNAL 3.5" DISK DRIVE

- Single or twin drive models available
- Slimline extra low profile – only 6" long!
- Top quality NEC drive mechanism
- Throughport allows daisy chaining other drives
- Superbly styled case in Amiga colours
- Fully compatible
- 1 meg unformatted capacity per drive
- Good cable length for positioning on your desk etc.
- Twin drive model takes up very little space
- Value for Money – before you buy a drive please compare the features – these drives have NEC mechanisms housed in superb cases. Some products are built to a price and not a standard. Don't spend a few pounds less and end up with 'rubbish' – and remember you are buying from the manufacturer.

ONLY £99.99 SINGLE DRIVE – OR £199.99 FOR TWIN DRIVE
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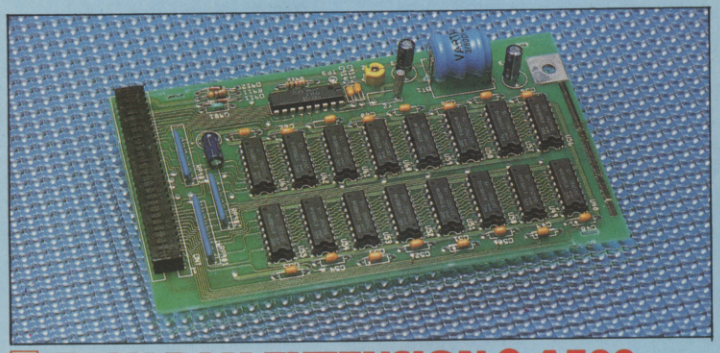
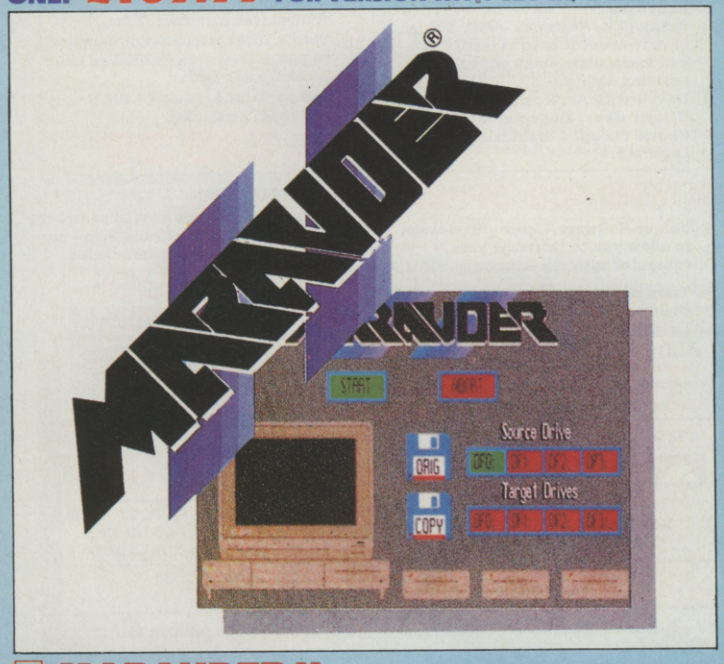


512K RAM EXTENSION ● A500

- Available with/without calendar clock option
- Simply plugs internally into a A500 slot
- Switch in/out with switch supplied
- Fitted in minutes – no soldering etc.
- With calendar/clock onboard time/date automatically booted
- Battery backed to retain time/date

ONLY £99.99 FOR STANDARD 512K CARD OR
ONLY £109.99 FOR VERSION WITH CLOCK/CALENDAR

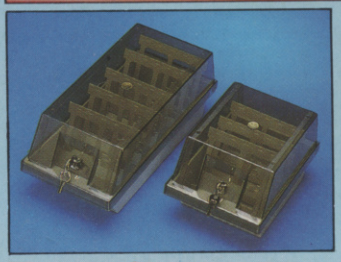


MARAUDER II

● Quite simply the best disk copier available for the Amiga (all models)

- Superfast disk copier will copy almost any commercial disk
- Friendly user Interface – Mouse driven throughout.
- Completely compatible with Amiga multitasking system
- Even decrypts many encoded programs including D.Print/Video/ Paint/Music/II etc.
- Special 'Strategy Files' cope with even the most advanced protection schemes
- Supports upto 5 drives simultaneously for multiple copies
- Regular updates available – we always ship the latest
- Fast operation – typically around 80 seconds
- USA's top selling copier

ONLY £29.99



DISK/STORAGE BOX OFFERS

- DD40 holds 40 3½" disks lockable.

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- DD80 holds 80 3½" disks lockable.

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- Disks – 3½" D/DS/D.
- Top quality, bulk packed with cables.

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DATA/SWITCH BOXES

- A/B type connect two printers to one computer or (vice-versa).
- Centronics connections or RS232 (Serial) connections (25 pin) please state.

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- ABC type connect three printers to one computer (or vice versa).
- Centronics or RS232 connections.

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- Intelligent Printer Sharer.
- Share one Printer between four computers.
- Automatic switching – no need to leave your computer.
- RS232 serial or Centronics connections – please state.

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PRINTER CABLES

- 25 pin 'D' to 36 way Centronics parallel lead.
- A 500 or 1000 please state.
- 1.2m length.

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- 25 pin 'D' to 25 pin 'D' – serial printer lead.
- A500 or 1000 – please state.
- 2m length.

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RPS responds to 3½" floppies criticism

Following a recent Hemcon US study casting doubts about the quality of 3½" floppy disks, Ivor Norkett, business manager at RPS — Europe's leading magnetic media manufacturer — hit back with 'conclusive proof' that all its 3½" media out perform ANSI requirements.

Norkett explained the 3½" disk is a very different product to its 5.25" equivalent, something which many manufacturers have failed to take in to account. Obviously, the 3½" disk is smaller that a 5.25" disk but it is also a higher engineered product than its 5.25" equivalent. As a result, the 3½" disk coating has to be better than would be acceptable on the 5.25" format.

On a standard 1MB 3½" disk, the density of information packed on to the surface is 8,000 bits per inch compared with up to 5,000 bits per inch for the conventional 5.25" disk.

This obviously means any surface imperfection is going to have a much more devastating effect. Any imperfections and bad spots that would be acceptable on a 5.25" disk are not acceptable on the 3.5" version.

Testing is therefore vital — RPS tests says Norkett, each floppy disk over its entire surface by writing and reading each track successively. In addition, the areas between tracks are tested to ensure that even a misaligned drive will be operating on a thoroughly tested portion of the disk.

Frequent durability tests are carried out on samples whereby one track is continuously written to and read from for a week. This works out to around five million passes of the read/write head over the whole disk — equivalent to ten years of normal usage. This procedure also checks for dropouts, oxide shedding and wear on the disk drive recording head. If the product survives this test the batch is regarded as acceptable.

Whilst the 3.5" disk is far better protected from dust and other detrimental foreign matter inside a tough, hard casing and automatic shutter, it still needs to be treated with utmost respect. In fact, the manufacturing tolerances of the 3½" are more critical than for the 5.25". Whereas on the 5.25", the jacket is highly flexible, the rigid shell of the 3.5" means that the tolerances are much higher because the case will not bend. There is also a shutter which can jam if the product is poorly made.

RPS has also developed a 2MB version of the 3½" format. This greater storage capability demands a reduced thickness of magnetic recording layer — as surface storage densities are increased, the layer has to be decreased.

The RPS 2MB 3½" disk has a one micron surface thickness — a reduction of 60% — which has been achieved by laser control and nuclear resonance techniques (NRT) to monitor the recording layer thickness and ensure its surface is smooth and consistent.

Heroes of the Lance

Heroes of the Lance is the first computer game that recreates the epic battle of good and evil on the world of Krynn — based on the first DRAGONLANCE module, Dragons of Despair. You control eight Companions, one at a time, in *real-time* action and full animation. Guide these brave adventurers, each with different specialized skills, deep into the ruins of the temple Xak Tsaroth to retrieve the precious Disks of Mishakal.

As you descend into the Abyss, the Companions must defend hordes of monstrous Draconians in hand-to-hand combat, deal with powerful magic and survive the vicious attacks from Gully Dwarfs, giant spiders, the undead and countless other terrors. But your final obstacle makes these monster innocuous by comparison: The platinum disks you seek are guarded by Khisanth, an ancient black dragon. There is but one way to vanquish this mighty beast. Find the key to destroy Khisanth and the Companions will take their first steps to earn the noble title, Heroes of the Lance for the 64, Amiga and PC.

The best car racing game?

'The ultimate model racing game for the Amiga', is what Microdeal call Turbo-Trax (what another 'ultimate' game?).

'Choose your car, get those revs going, wait for the green flag — you're off!' Microdeal claim you will feel all the tension and danger as if you were really in a racing car racing in the Grand Prix.

With eight additional track options, four channel stereophonic sound, split screen four-way scrolling, chicanes, cross-overs, and pit stops, three difficulty levels, time trials for up to six players and lap records saved, 'this must be a good contender', boasts Microdeal, 'for the best racing car game ever on the Amiga'. Price £19.95.

Mandarin's Rally Sim

A JOINT venture involving entertainment label Mandarin, Red Rat Software and the Lombard/RAC Rally team is to produce a computer game of the Lombard RAC Car rally.

A faithful re-enactment of the rally, it allows the player to slip behind the wheel of a 300bhp Group A Ford Sierra RS Cosworth warming up on the start line.

Then it's away on the ride through four distinct stages — road, forest, mountain and night driving.

All this has been lovingly recreated with the input of experts from Lombard, the RAC Motor Sports Association and Ford. Even the accompanying manual has been designed to conjure up the excitement. It includes not only a history of the event but also a guide to the sport.

Even the accompanying manual has been designed to conjure up the excitement. It includes not only a history of the event but also a guide to the sport. The simulation is to be initially released on the Amiga. Priced at £19.95, it is scheduled to appear in the shops in Autumn.

Tiger Road

Defeat the evil minion of Ryn Ken Oh in this martial arts arcade adventure by Capcom. The evil Ryn Ken Oh has been raiding the village, tormenting the villagers and kidnapping the children. He intends to brainwash them and turn them into soliders for his evil army. The master of the On Rin Temple has ordered his best student Lee Wong to save the children and defeat the evil Ryn Ken Oh! Aided by a magical jacket which helps you to jump and fly and several magical weapons, including a spear and the snake weapon you have to complete many hazardous levels. Throughout your journey you will encounter many enemies that will try to end your quest. Samurai Warriors brandish vicious curved axes and come at you from all angles — if you're quick enough you can beat them off with a well aimed karate kick! Make good use of Lee's jumping skills to avoid the flying Ninja warriors and acrobatic Sumo wrestlers!

Tigert Road is an arcade conversion based on an ancient Chinese fable, consisting of many different hazardous levels.

"American Aces in 'Nam"

From the creators of Dam Busters, Ace of Aces and Dive Bomber. Big Apple are releasing flight combat simulation — "THUD RIDGE; American Aces in 'Nam."

.In Thud Ridge you are in the middle of a hair-raising combat mission in the Vietnam War. Hands on the controls of the legendary F-105 Thunderchief, you are flying with the Wild Weasels, the squadron of Amercian Aces who defied the odds — and the enemy — to run air strikes into Downtown Hanoi. Hanoi was the most heavily defended target in the history of aerial warfare — three times the defences that protected Berlin in World War II. Defensive weapons that ranged from Sams and Migs to 100mm and 85mm guns to the 57 and 37mm batteries and right down to automatic weapons, rifles and pistols. The F-105 or "Thud" was the ultimate American fighting machine — rugged, durable, fast and tough — the "Thud" could top out at 1,200 mph and carried a weapons payload of 18,000 pounds. Thudridge features high speed 3-D flight simulation graphics, dogfight enemy Migs with HUD displays electronics/radar system and Bombing/cannon strafing modes and Multiple skill levels.

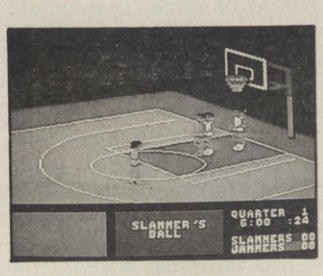
Availability: Commodore 64 (C); R.R.P. £9.95, Amiga £19.95, IBM PC £19.95; Disk £14.95; Anticipated release date is Jan/Feb 1989.

ACCOLADE'S SPORTS SERIES

Accolade has told us about their four new sports simulations, **East Break,** a basketball simulation, **Serve and Volley,** a tennis simulation, **Rack 'em,** a snooker simulation and **T.K.O., (Technical Knock Out),** a boxing simulation.

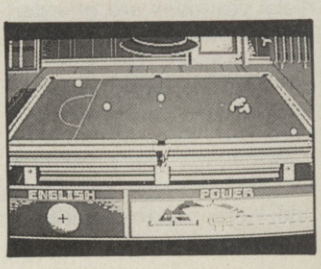
Serve & Volley is an action/strategy tennis simulation that emphasises correct ball placement, timing and stroke selection. The game features three different levels of difficulty including fast, medium and hard; practice modes; three different court surfaces; and a full tennis court view with action windows and "strobe-o-strobe" graphics. Strobe-o-strobe is a type of animation that makes the serves and hits appear very realistic. Players can choose from three serves, including top spin, first serve and slice and five different hits, including volley forehand, smash, lob and backhand. Additionally Serve & Volley features the option to adjust endurance, forehand vs. backhand and power vs. accuracy for each player.

Serve & Volley is a one or two player game and offers match or tournament play vs. the computer or two players against each other. Players' statistics can be saved which allows gamers to either watch as the computer plays for them according to their statistics or elect to have only the outcome of the game displayed. Each tournament or match can be saved and resumed.



Rack 'em, features a top down and 3-D view of the table contains five games including snooker, bumper pool, straight pool, 8 ball and 9 ball rules. A one or two player game, Rack 'em allows the player to pick the following variables that effect game play: the object ball and pocket, aim, english and power. The player can practice by using the restore shot feature that allows the last shot to be retaken. Additionally the game features trick shots and the option to save the 10 best shots.

Rack 'em also includes a generic game, which allows players to establish their own rules, move balls and change scores. In addition to the generic game feature, Rack 'em contains a bumper pool construction set that allows players to create their own bumper table.



Fast Break, designed by Steve Cartwright is the first full court three-on-three action basketball game that allows players to select from pre-set offensive and defensive plays or design their own. One to two players can compete head-to-head with professional rules and a ful' complement of basketball moves from three pointers to slam dunks.

T.K.O. (Technical Knock Out) is an arcade style, split-screen boxing game featuring large graphics. When playing T.K.O. the first person perspective allows the player to get the feeling of what it is really like to be in the boxing ring. Featuring both offensive and defensive maneouvres for each contender, boxers dodge and duck and the opponent throws punches. When hit, each boxer's face shows the damage he has sustained, including black eyes, fat lips, swollen cheeks, bruised forehead and a cut jaw. T.K.O. is a one or two player game designed by Mike Lorenzen.

Serve & Volley — C64/9.95/14.95 PC/24.95, Fast Break — C64/9.95/14.95, Rack 'em — C64/9.95/14.95, PC/24.95, T.K.O. — C64/9.95/14.95.

Grandslam Goes In For Espionage

Espionage, already a smash hit on the board game circuit is to be released shortly as computer game by Grandslam. Espionage, with an official 007 James Bond link up is, so Grandslam, tell us likely to be one of the hits of the coming Winter season. Espionage will be released on the 64, Amiga and SC.

OOPS! says Big Apple

OOPS! is the first release from The Big Apple and signals the launch of the company. In OOPS! you play a lone space-time control quadroid and collect gravity pods in the space-time continuum. With eight pods on each of the 32 different screens and the ever present danger of the Rim Lords, Electron Ball and Rogue Cells, OOPS! claims Big A, will stretch the skills of all game players.

Availability: Commodore 64 (C) £14.95, Available now; IBM PC £19.95, Autumn 1988.

ARTURA FROM GREMLIN

Gremlin wants you to "Race back in time to a place and a dimension where chivalry was the code of conduct. An age in which the mystical meanderings of witches and warlocks made every day a tireless adventure, every night a chilling encounter with death. You are Artura, son of Pendragon. This arcade/adventure is set in the fifth century, at the time of bloody wars and mysterious magickes. Your task is to rescue Nimue from the clutches of your evil half-sister, Morgause. You must use the mystical wheel of Cerriddwen to travel to her stronghold. Only be finding the mystical rune stones will you liberate Nimue. You must overcome the ghouls, spiders, soldiers and giant rats to secure yor treasure. So stand proud Artura — set forth on your quest to unite the warring kingdoms of Albion." Who! (You can thank Gremlin's Richard Berclay for that deathless prose!)

The One Billion Byte Drive

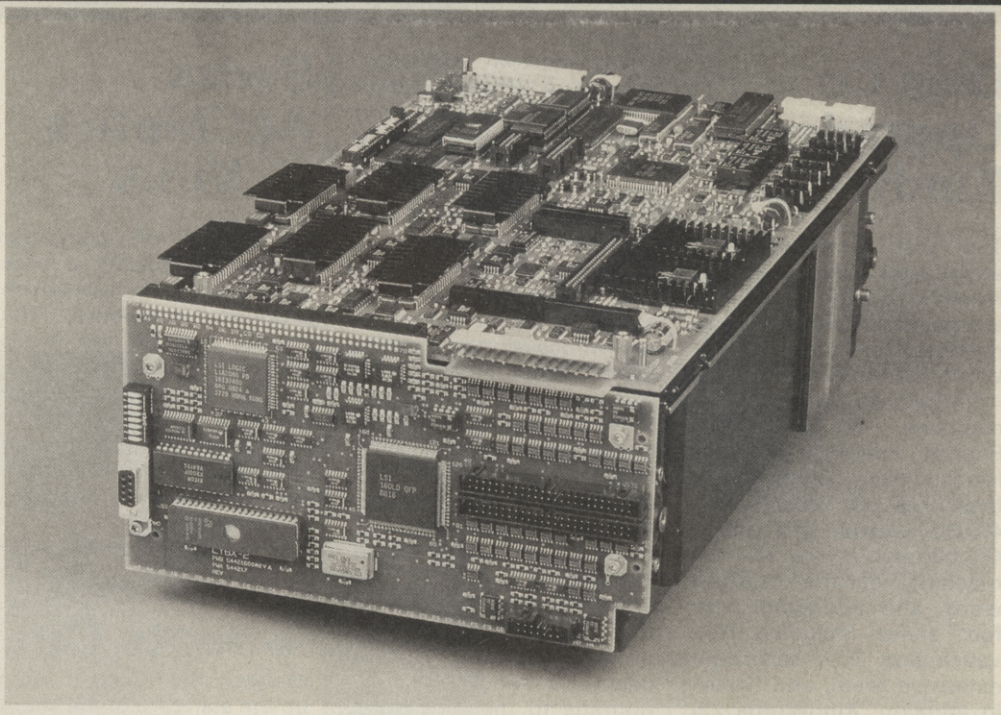
Recently in Paris, Imprimis Technology introduced the computer industry's fastest one gigabyte (one billion bytes) eight-inch disk storage product: the Sabre two-head parallel disc drive. This quarter-rack disk drive has an industry-leading transfer rate of six megabytes per second, and can store 1154 million data bytes.

"The product said James E. Ousley, vice president, is aimed at high-performance markets such as graphics imaging, sismic analysis and scientific computing where high speed data transfer is essential to success. In terms of space, power and price, the Sabre two-head parallel drive reduces the cost of ownership by a five to one ratio over current parallel drives offering comparable performance," he said.

The Sabre two-head parallel product incorporates a new and faster standard IPI-2 1/O interface which enables simultaneous read/write functions from two heads so there is very little modification to achieve the six megabyte per second transfer rate. It achieves an average seek time of 16 milliseconds and transfers to onboard 4K disk buffer provides high performance not affected by any other Amiga DMA activities (e.g. Amiga Blitter, etc).

The Impact A500-HD/RAM Controller is priced at $795.00.

Contact: GVP, 225 Plank Avenue, Paoli, PA 19301. Tel: 215-889-9411.



Imprimis' Billion-byte drive

uses both thin film media and thin film heads.

You can buy a Sabre two head parallel unit at a mere $7040. Imprimis Technology is a subsidiary of Control Data, a U.S. Minneapolis-based company with $3.4 billion in revenues in 1987.

A500 Impact

Great Valley Products of Pennsylvania, USA, are releasing a combination hard disk and memory expansion add-on subsystem from the Amiga A500.

The Impact A500-HD/RAM Controller combines ANSI X3T9.2 compatible SCSI controller, 3.5" hard disk drive and up to 2MB FAST RAM expansion for the A500, in a single compact, snap-on unit. It uses its own power supply, fully meets the Commodore specification for maximum power drain on Amiga A500® expansion connector. In has an internal connector for installing the optional, zero wait-state FAST RAM expansion module, which provides up to 2MB of Fat Ram expansion.

There is also an external SCSI connector for connecting up to 7 external SCSI devices. The 16-bit Direct Memory Access (DMA) data

Amiga Guides the Tourists

The New Forest in the UK plays host to thousands of tourists every year, every one looking to get the most out of the holiday. From now on organising trips and finding places of interest will be easier than ever before thanks to a clever, interactive and computerised tourist guide.

Two of CBM's Amiga 2000s have been installed in the New Forest Museum and Visitor Centre with a state-of-the-art interactive database that includes pictures, sounds and information on the New Forest. The computers hold hundreds of digitised photographs of a local animals, villages, sports facilities, and places of general interest.

When a visitor wants more information regarding any picture a single keystroke will lead to a series of menus and displays on the subject. Visitors can plan their own expedition by using the specially designed keypad. Children can then be shown an animated sequence of what each particular activity involves.

The Amiga 2000s are protected from prying hands by a Perspex screen and in a workstation made from trees felled in the New Forest. Installed by Aspen Interactive, which has done much to pioneer the use of such systems, the interactive Amgia 2000 set-up is similar to that produced for the Guiness Book of World Records which is in constant use at London's Trocadero Centre and New York's Empire State building.

Dinamic Signature for E.A.

DINAMIC has announced its signing with Electronic home entertainment publisher in Spain, was responsible for chart hits such as Game Over and Army Moves. Its titles were previously licensed in Europe by Imagine.

Electronic Arts will handle the sales and distribution of all Dinamic's future titles for all of Europe — excluding Spain, Portugal and Italy.

Michel Angstadt, Director of International Operations for Dinamic said: "After looking closely at the European market-place and talking to a number of software publishers we close to work with EA."

Mark Lewis, Director of European Publishing for Electronic Arts said: "Naturally we are delighted to have signed Dinamic as one of our Affiliated Labels. We were attracted to the professionalism Dinamic has shown both in the quality of its products and by the high standard of its marketing."

Disc Co Upgrades KindWords

The Disc Company has announced the release of KindWords 2.0, featuring several significant improvements to the original KindWords wordprocessor.

KindWords 2.0 contains a complete 100,000 word English spelling corrector licensed from Collins, a new thesaurus that accepts over 40,000 words and offers 470,000 synonyms and the meaning of the selected word, and additional new font styles including Helvetica 8pt, 12pt and 14pt, extensive Math, and Greek. In addition, KindWords 2.0 offers Automatic hyphenation as you type and manual control, and several new menu commands, including Select All.

Since we began shipping KindWords in November, 1987, over 20,000 programs have been sold worldwide" asserts A. Robert Kotick, TDB PResident. "With KindWords 2.0, we expect to surpass this impressive record."

KindWords offers a fully intergrated graphics environment that enables users to crop and manipulate image size in 16 colours within the wordprocessing application. Other important features include true What-You-See-Is-What-You-Get, unlimited document length, global select command, find and replace, and other features that set KindWords apart from other Amiga wordprocessors.

KindWords 2.0 will still be available at its original price of £40 inc. vat. Existing users of KindWords can upgrade to the KindWords 2.0 for £14.95 inc.VAT. Customers can call our European freephone to be announced in October.

KindWords is available through GEM, Tel: 0279-41-24-41 and HB Marketing 0895-444433.

Swiss Antibiotics V. Virus

A plague of computer viruses has infected a large chemical firm in Basle which produces antibiotics. The viruses brought the firm's two networks to a standstill. The company has banned games and public domain software, and is testing certain commercial packages in a bid to trace the problems.

Martech Shoots Out

Martech have plans to keep up the standard of the shoot 'em up computer game. They have won CCI Oskars in the past for this popular genre. Their latest in the field has the highly original title of 'Shoot Out'. Shortly to stalk your streets on the 64.

Elite's Fists'n' Throttles

Elite have announced the launch of two of their biggest compilations to date; Frank Brunos Big Box, and Fists'n'Throttles.

Collected together for the first time in one box, Fists'n'Throttles contains five of their most successful titles: *Buggy Boy, Thundercats, Ikari Warriors, Dragons Lair* and *Enduro Racer.*

With Frank Brunos Big Box, the emphasis is very definitely on BIG! — 10 of the biggest have been compiled together to form the definitive collection of Elites finest products . . .

. . . Games included are: *Frank Brunos Boxing, Commando, Ghosts & Goblins, Airwolf, Bombjack, Scooby Doo, 1942, Saboteur, Battleships* and *Batty.*

FAKE CBM DISKS

Cheap counterfeit copies of the new Commodre diskettes have been discovered on sale in London's West End just a few weeks after the official launch. Imitation packaging emblazoned with the Commodore logo is designed to dupe the end user, but the poor quality disks enclosed would only fool — and definitely disappoint — the first time buyer. RPS — Europe's leading computer media manufacturer — has the exclusive licensing agreement with Commodore to market Commodore branded 5.25" and 3.5" diskettes in the UK.

Ivor Norkett, UK business manager for RPS, and Commodore have instigated immediate investigations.

"Our evidence suggests that this a localised problem and we have taken steps to eradicate it." says Norkett.

"Our initial tests show that these pirate disks are totally inferior in quality and performance and any users of no name or unknown brands are going to experience problems. We will ensure the good name of RPS and Commodore will be protected from this kind of con trick." The only way to be sure of buying a quality product is to insist on a well known brand. Anyone purchasing Commodore diskettes is advised to check the packaging for the wording 'Manufactured by RPS'.

The speed of this imitation is thought to be a determined bid to cash in on what is anticipated to be a vast consumer market. Sales of Commodore brand diskettes in Germany in 1987 were in excess of 10 million and the total European market is expected to exceed 20 million diskettes in 1988.

MicroPro launches WordStar Professional Release 5

MicroPro has launched WordStar Professional Release 5 in the UK. This latest version of the world's besdt selling word processing package incorporates 300 new features including MicroPro says "the most effective advanced page preview facilities available" and optional pull-down menus.

WordStar Professional's Advanced Page Preview lets the user see on the screen exactly what a single page or an entire document will look like when printed. WYSIWYG requires that font shape, size and placement be represented exactly as they will print, along with subscripts, superscripts, boldfacing, underlining, line boxes and other formatting features. WordStar Professional, MicroPro believes, is the only IBM PC compatible product that offers true WYSIWYG without the need for additional hardware.

It provides very fast display of a single page, facing pages, or multiple pages for checking page breaks and general page layout, and, in a thumbnail form, for up to 144 pages on high-resolution displays. It also includes a zoom view to take a look at fonts and line breaks in details, and a grid display to ensure things are proportioned the desired way. In single page display mode, the user can scroll through pages.

This gives users the opportunity to do things they could not otherwise do. For example, the thumbnail view can show an entire chapter at one time, allowing the writer to see formatting errors and the visual flow of the document.

Contact: MicroPro International Ltd, Chancery House, St Nicholas Way, Sutton, Surrey SM1 1EH. Tel: 01-643 8866.

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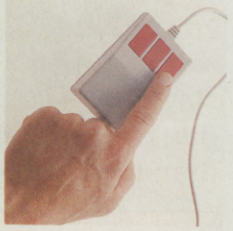
Stop Press can be used with a joystick or keyboard but the AMX Mouse gives you the control and flexibilty which you would expect from the most accurate pointing device available.

Established as the market leader the AMX Mouse has been the driving force behind a whole host of new applications from other software houses. With its unique design and high resolution movement the AMX Mouse is a must.



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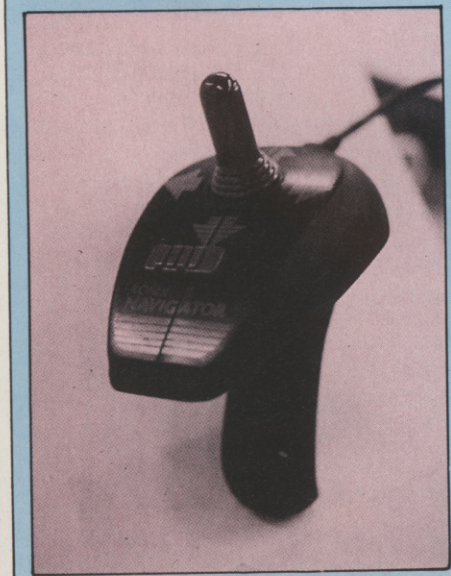
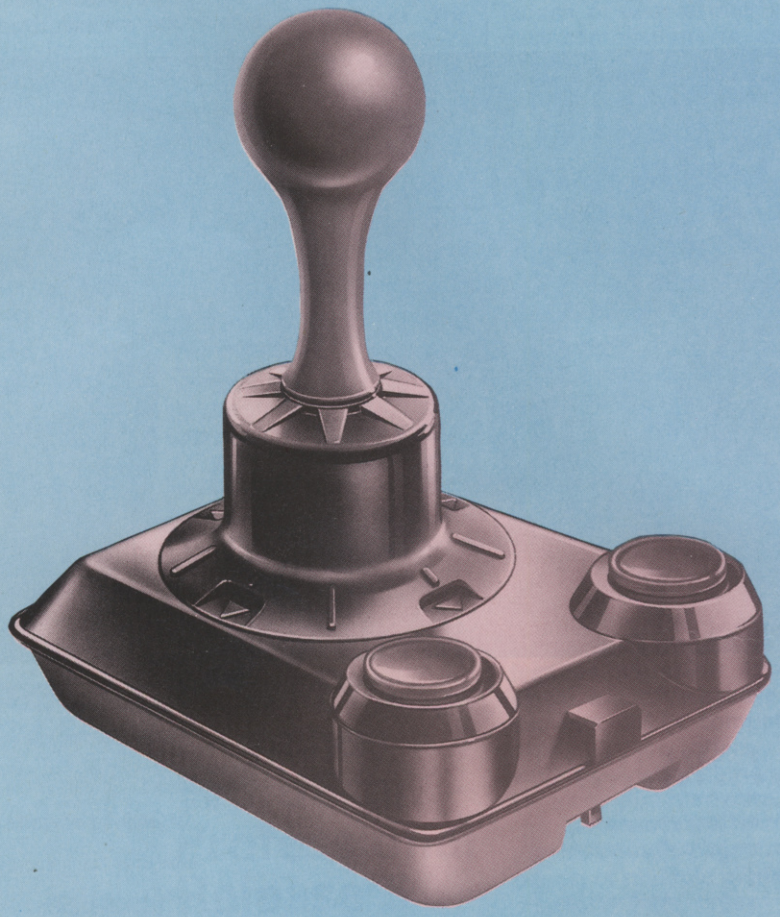
Give it So

NAVIGATOR (KONIX)
£14.99
The Navigator can be thought of as a sequel to the Speedking. Like the Speedking it's designed 'ergonomically' to fit into the hand as naturally as possible to speed up reaction times.

It's look is a lot more futuristic than the Speedking but in use it has much the same smooth feed. The stick is short and despite its loud microswitches tends to be inaccurate. Waggling games (Decathon etc.) are awkward and the situation of the fire button can inconvenience a shooter-upper. The Navigator is best used in games where accuracy and speed is not that important, and used in such a game it's very comfortable indeed. If you like the Speedking, as millions do the Navigator will be the perfect up-grade, if not then look elsewhere.





MICRO BLASTER
(COMPUMART) £12.95
Arriving just too late for inclusion in our joystick round-up last month were a foursome of new controllers.
Micro Blaster
(Computmart) £12.95

At £12.95 the Micro Blaster aims to give top quality precision and strength at a low price. Similar in design to the Competion Pro and Professional Autofire (see last month's issue) its fully micro-switched making it accurate and reliable.

Being more accustomed to the Competition Pro, the base felt a bit too small in relation to the rest of the stick. Both fire buttons feel good and the autofire toggle is easy to reach in a hurry (provided you aren't using it on a tabletop). It's not as good looking as some of its rivals but for the price is well worth consdering. Recommended.

ome MORE Stick!

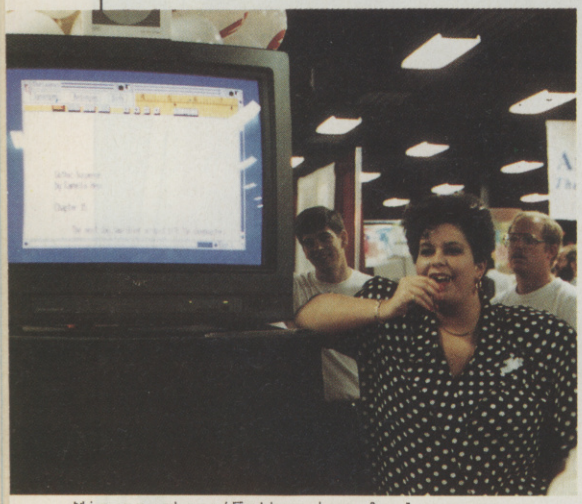
CHALLENGER (CHEETAH) £4.95
This is one of the smallest and cheapest joysticks ever! It'll only set you back a fiver and is dwarfed by Cheetah's Star Fighter. It takes the popular pistol grip basic design with a fire button on the top of the stick and another on the base.

Surprisingly for a stick this cheap it performs quite well. The buttons are responsive (far more so than the Star Fighter) and so is the stick. Its size andprice makes it an ideal for young hands, and if it gets accidentally (or purposely for that matter) smashed up you won't be losing much.

STAR FIGHTER (CHEETAH) £14.95
Yet another off-shoot of the Quickshot, the Star Fighter is a meaty stick to look at. As with most sticks of this type, the shaft travels a bit further than its ideal. However, micro-switches are used for the stick which counter the wobbly motion.

What lets it down is the quality of the buttons. There are four in all, two on the shaft and two on the base. They are extremely weakly sprung and often fail to bounce back, which is really the stick's only fault. Apart from that it's very comfortable, also having an autofire at the front of the base. Not bad for the money, but bear in mind you can pick up a superior Quickshot II Turbo for the same price.

AmiExpo



Microsystems' Esther Lee Appleman proposes the pursuit of Excellence!

OUT on the Terrace, five floors up the 35 storey Westin Bonaventure Hotel in downtown Los Angeles, a small boy, was playing with a white balloon. It bore the logo of 'Microsystems' the wordprocessing package Excellence. Microsystems was one of the 85 companies exhibiting at the 4th Amiga Show down below in the cavernous 1200 room hotel. The small boy released the balloon and carried by the thermals created by the tall buildings around that drarfed even the hotel, the Excellence logo rose high . . . and higher . . . and higher. Soon it was a white spot disappearing south way up over the skyscraping 65 floor Arco building nearby.

Downstairs in the AmiExpo there was a definite sense that, like that balloon, the Amiga was beginning to rise very fast indeed. This Los Angeles AmiExpo was very different from any of the other Amiga Shows. It was, to begin with, extraordinary, especially for someone coming from Europe to find that the Amiga that was owned by most visitors was not the A500 but the A2000. No-one could supply a ready explanation for this except to speculate that possibly with the prosperity of the most populated State in the Union, Californians were just unwilling to go for anything but the best — or at least the most expensive.

Secondly, there was the highest number of exhibitors yet present at an AmiExpo. Probably a sign that the interest in the Amiga, and the increased sales that Commodore is achieving are beginning to attract new companies into what is beginning to seem a computer market of high potential.

Thirdly, the Show tended to confirm the analysis that the majority of games may be coming out of Europe now but the U.S. Amiga industry is still bringing along technical products that are continuing to increase Commodore's 6800 machine's penetration into the specialised markets of sound and vision.

While there was a number of exhibitors who has survived the

AUI's team present Europe's No1 Amiga publication

California '88

difficult times and, like Amiga User Internation , CCI's sister magazine, been at all the AmiExpo, there was a much larger amount of newer entries into the Amiga market. In the "Old faithful" category were Aegis Development heralding a new version of their Videoscope 3D and Scott Peterson's Byte whose stunning demos always attract crowds as do his mini-seminars on his company's products, in this case some exciting 3D Object Library Disks. Supra's Hard Disks are now practically a tradition but Newtek denies that their Video Toaster video will become one and the actual product should appear "first quarter" 1989. Oxxi had its Maxiplan 500 and Precision, from the U.K. showed the popular Superbase. New Horizons were releasing Proscript, a utility for printing ProWrite files on Postscript printers other regulars included Jumpdisk, the original disk magazine for the Amiga, now over two years old, Lattice and Manx, both standbys for developers with their compilers and other utilities, Micro-illusions of Faery Tale and Photon Paint fame and, of course, Micro-systems famous for their Scribble and Excellence W/Ps (and baloons!)

New Amigans

There was also an increasing group of companies who were making their first or second appearance. Free Spirit had an interesting hard drive back up and file management utility. UltraDos, Fuller Computer Systems were releasing Project D another disk back up with a disk editors and special format copier included. Emeral Intelligence who have received an official grant to progress their artificial intelligence/ expert system programming tool, Megallan. Digital Dynamics were demonstrating SNIP, a signal processing software. Elan Design had Invision, a realtime video effects systems. Memory and Storage Technology showed their Matchbox Collection of peripherals, including MiniMegs 2meg Ram Expansion for the A2000 and A500, the Tiny Tiger SCSI hard drive subsystems and the interestingly named Whomper Plus, a hardware implemented virus deterrent.

Few Games

More and more Amiga User Groups are coming to the Shows as exhibitors. This time they included A.M.I.G.A. which features public domain software, AMUSE, the New York, ASCIITECH and AUNET, the first offering CATFISH, the complete Fish disk catalogue, the second a Silicon Valley group.

There were also a few Stands where you could buy software and hardware at discounted prices, most notably at Creative Computers and 'the strange crew of people led by Dr Oxide', as they call themselves. Their company motto is "Free Insults for All — come by and get one!" And they mean it. One surprised customer was confronted by the agressive Dr Oxide after completing a purchase and asked "Have you got your purchase now?" Yes, nodded the buyer. "Have you got your money?" demanded Dr Oxide. Yes, again. "Then get the fuck off my stand!" snarled Dr Oxide. The buyer stepped back astonished. Then Dr Oxide produced the Comp-U-Save Tee Shirt and presented it to him. Across the chest it read "I have been insulted by Dr Oxide!" Apparently the insult ritual took place every hour. An odd way to achieve customer loyalty even in the peculiar world of the Californian Amiga . . .

You may wonder why games have not been mentioned. The reason is that as yet the U.S. market for that kind of entertainment software is still moving slowly. There were a few games that looked as if they might be competitors for the Europeans. Antic were presenting the first HAM-Hold and Modify mode — game, a sharply defined graphic games called Pioneer Plague by the author of the legendary Mindwalker. Mindware had Charon, to be released inn Europe through Precision. Discovery showed both the astonishing Sword of Sodan and their latest release, Hybris, a classic shoot 'em up. Tritec had Dungeon Quest, an arcade-style game and two enterprising European companies, Microdeal from the U.K. had Tanglewood, an adventure and Starvision from Denmark had some really good looking demos of their forthcoming Twin Ranger, Mega Pinball and Snowberry. A visitor to the Show bought what looked like one of the games of the year. Jonathan Morris of Psygnosis from the U.K. put up on the Amiga on the AUI Stand "Aqua Ventura" and attracted crowds to see the stunning graphics and lively gameplay.

However, while it is clear that the standard of Amiga games continues to rise strikingly, the U.S. market is still not very interested, and probably will not be so until the A500 has penetrated far more into places like California.

It is not only the games that are rising to higher levels. The video and sound application soft and hardware show encouraging improvements and also encouraging falls in price. Disk drive prices are ound the £80 mark and hard drives too are much more economical than before. With quality rising and prices falling, the Excellence balloon may well be a credible representation of the direction in which the Amiga is moving. Up, up and away . . .

Free Spirit and Trumpcard expansion

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Graphic Editor

Firebird

When I was asked to review "Graphic Editor", my first reaction was "Oh no! Not another drawing program??!!"

But on loading it up for the first time I was very surprised to discover that it isn't "just another drawing program!" "Graphic Editor" by J. Fox (distributed by Firebird) is for designing character sets and sprites. "So what!", I hear you say, "There are loadsa' programs that already do that!!" Yes, there are. But this program isn't about drawing pretty hi-res pictures that will never see the light of day again. It's about designing User Defined Graphics, or UDGs for short. And let's fact it, without UDGs games like Uridium and Gauntlet would not have been anything like the same!!

To explain that fully, "Graphics Editor" lets you totally redefine the character-set then use your designs to create backgrounds. (It also includes a sprite editor, but more about that later.)

Once loaded, you are taken straight into the "Character Editor". A nicely laid out screen presents you with both an "actual sized" character set as well as a very much enlarged version of the character currently being worked on.

Alongside this is a host of useful information, including character number, memory location, character colour (plus two other colour selections for use in multi-colour mode!) and the start and end locations of the area of memory that you are working on.

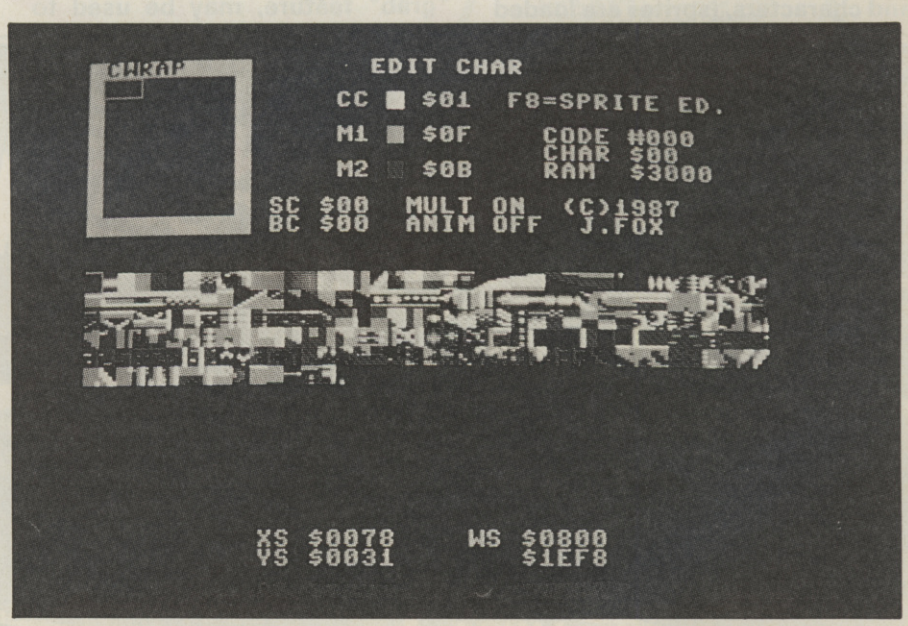
Coupled with this are Forty commands to define and display the characters, most of which are single keypresses. Including scrolling, flipping, inverting, duplicating and animating.

Having designed your character set for say, a background, you can slowly build up the finished article. Pressing the letter "P" allows you to place individually selected characters onto a "work-screen". At this point, the "work-screen" is represented as a "window" (about half normal Commodore screen-size) which may be scrolled around to position it over the area you want to work on. Pressing (Backarrow) will toggle the window to full screen-size and back.

Whilst in this "Position Character" mode, you are also able to "grab" areas of the screen and reposition, or copy, them to another area. This is very useful if you are designing a repetative background, for example, where you would otherwise have to spend a long time positioning a single character over and over. Using the "grab" you can do a smaller area and just copy it repeatedly.

There is also a command that allows you to define an area to be filled with a single character. This might be used for repetative work as well, or where you want to clear an area (by "filling" it with spaces).

Other commands let you add text, in normal and expanded size, store the window at a different address, change the window size, alter all the colours and much more.

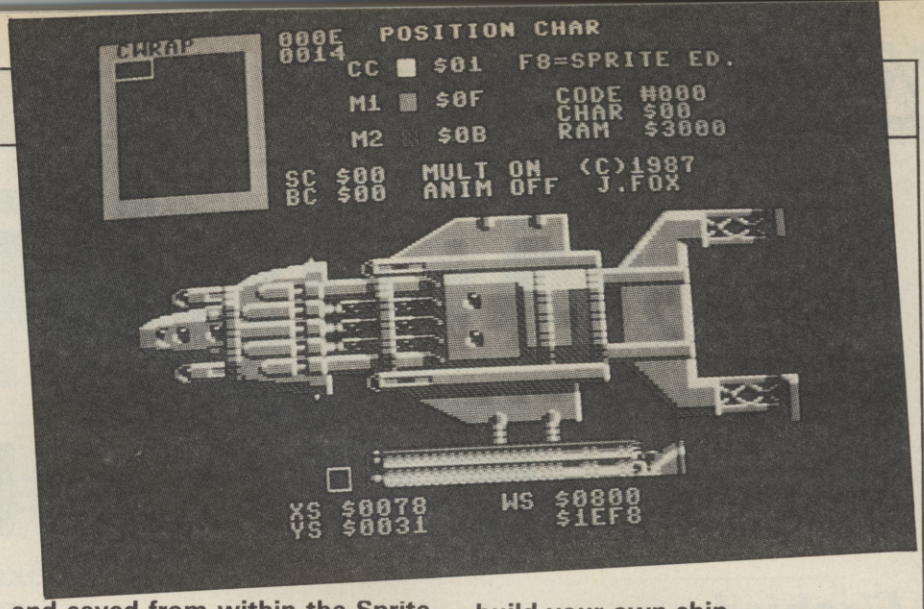


As Character Editors go, this is probably the most feature-packed and easy to use that I have come across for a long time.

But that is only HALF of this program!! Pressing "F8" takes you into an equally impressive "Sprite Editor".

Here, you are presented with a VERY LARGE display of the current sprite being worked on, (one of 204 available!). Alongside this, up

cont. on next page



continued from page 39

to seven sprites may be positioned and ANIMATED. Each of these can have totally different characteristics (size, colours, multi/hi-res, speed etc). They may be placed next to each other, letting you see what they are going to look like before you include them in a programme.

Once again, over forty commands are available to you and I could not think of anything that had been missed!

Obviously, not all of the commands are the same for both parts and there are too many of them it would be difficult to remember them all. "No problem," you say, "look in the instruction book!"

"One problem," I reply, "there isn't one supplied!!" But, "F7" will take you into the final part of "Graphic Editor", the In/Out mode.

Once here, pressing "H" brings up a series of "Help Screens" that give a full list of all the commands available, along with guidance on how to use your creations in your own programs. Also at this point, you can load and save your screens and characters, (sprites are loaded and saved from within the Sprite Editor), or any area of memory you choose. If you have "grabbed" an area, this can also be loaded/saved from here.

All in all I found "Graphic Editor" a delight to use. Examples of both characters and sprites are supplied, along with a completed "spaceship" design for you to experiment with. Even here, the thought that has gone into this program is apparent. At the bottom of the spaceship screen are a series of "bits and pieces" of spaceship which, by using the "grab" feature, may be used to build your own ship.

In the "Sprite Editor", there are seven fully animated sprites, plus the alphabet for you to play with.

By now, you must be thinking: "That sounds great, but I bet it costs a fortune!!" OK, here's the price (read it slowly): ONE POUND AND NINETY-NINE PENCE!!!

Need I say more. If you are into graphics (or even if you're not!), go and buy it!!! Firebird has gone into the charity business! £1.99! This must be the bargain of the year!

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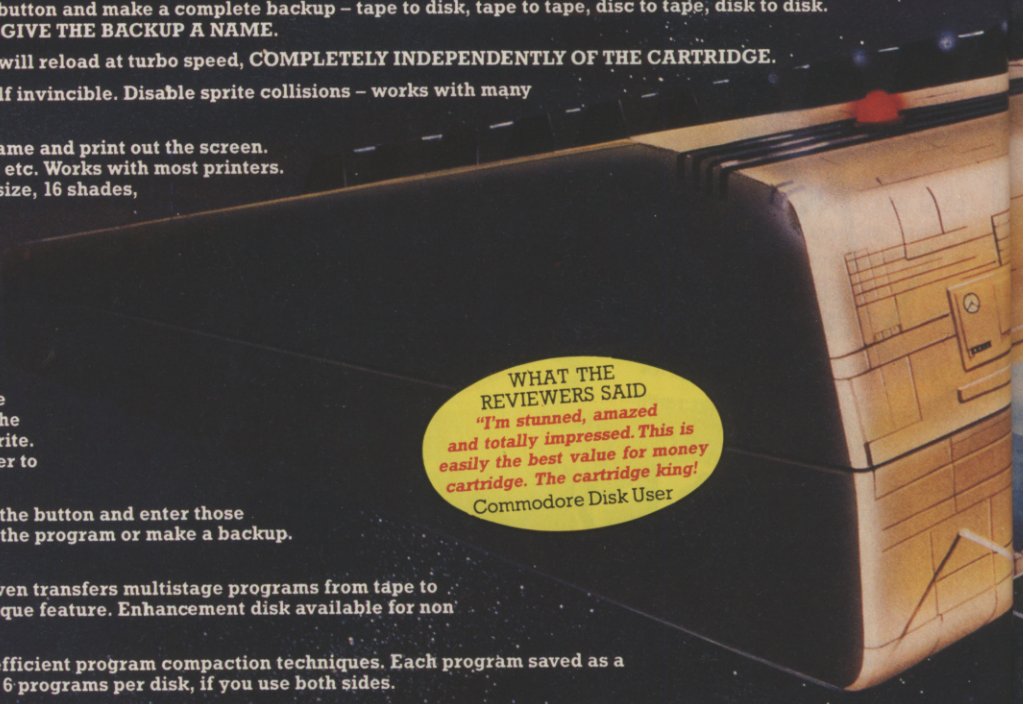

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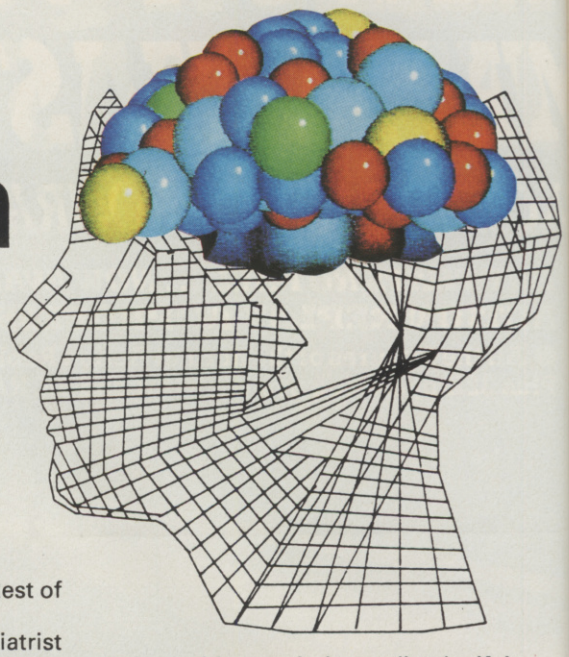

Artificial Intelligence on Commodore Computers

Part V

Artificial Intelligence encompasses all sorts of fields, and is a rich source of inspiration for authors of science fiction. Amongst others, Isaac Asimov, probably the leading mainstream science fiction author still writing, has done more than most to put the robot (a leading example of A.I. if ever there were one) firmly to the forefront of S.F. as something rather more than a dim-witted Frankenstein. Robots exhibit intelligent thought to varying degrees, and all of them have the now-famous Three Laws of Robotics burnt so deeply into their "positronic brains" (it's nice to see that even Mr. Asimov does not know what one of those is) that they are incapable of harming a human being.

However, there are just about enough twists in the working of the Laws to ensure that the old maestro can keep coming up with new ideas and stories. One of his more famous robots is probably R. Daneel Olivaw, who appears in all sorts of novels. He first came to light in The Caves of Steel as something of a psychiatrist amongst robots who has had a deep desire for justice burned into his brain and has therefore become a detective, much to his human partner's initial disgust. He crops up again and again, usually with that human partner Elijah Baley muttering "Jehoshaphat!" somewhere in the background, and was seen fairly recently in one of the Foundation series of stories.

Another of his less-famous robots bore the nickname "Easy", in a story entitled Galley Slave. It was this robot's job to read through a manuscript and point out errors. Factual ones if it knew them, or if hypotheses put forward in one section of the manuscript lead to an error somewhere else, but more usually it would indicate grammatical and spelling errors. The twist in this particular tale is...but there, you can read The Rest of the Robots and find out.

The point is this. A psychiatrist robot was turned into a detective by adding a desire for justice ("that state which appertains when all laws are upheld" is more or less how R. Daneel describes justice), and a simple spelling checker robot (I have a spelling checker for the word processor being used whilst writing this article) has advanced to the state where it can also correct grammatical mistakes. My spelling checker wouldn't know whether THEIR or THERE was the correct one, but since both are spelt correctly it blithely ignores the word and carries on. Similarly, WHERE and WERE, HEAR and HERE, and other such combinations, would all be passed as being perfectly correct when in fact the wrong one could be being used.

The Eliza program that we've been following in the last four issues is, in a very minor way, a little psychiatrist. It is also, again in a minor way, something of a spelling checker, in that it has to analyse what was typed in by the user and interpret it accordingly. We are going to digress from our chosen path for a short while in order to consider these two issues and their relevance both to our program in particular and A.I. in general.

Millions of man hours, computer hours, and pounds as well, have been spent on research into producing an A.I. machine that can correct not only spelling mistakes but also point out grammatical errors as well. The aforementioned THEIR and THERE for instance, is a classic case. Most of us would, I'm sure, know which one to use under any given circumstance, and mistakes clearly shout back at you when re-reading something. However, in the heady moments of actually writing something it is often far too easy to use the wrong one, even if you knew what the correct one should be and would spot it immediately if it appeared in an article or letter by someone else.

Some people have mental blocks over certain words. I have one correspondent who frequently writes STRAGNE instead of STRANGE, a typing error rather than a spelling one, but easy enough to do when typing rapidly. A spelling checker would find that one. WHERE and WERE confuse some people, and I never know whether to use PRACTISE or PRACTICE. Even reading the dictionary definitions doesn't help me to remember which one to use where or when, so I usually try and use another word instead.

"Imagine trying to "teach" a computer the logic behind a sentence such as "that that that was was obvious, was obvious."

However, a grammar checker, if I may coin the phrase, would certainly point out the nature of the error. Writing such a program would not be easy, and would require a deep and profund knowledge of the workings of the English language, a complex subject at the best of times. Imagine trying to "teach" a computer the logic behind a sentence such as "That that that was obvious, was obvious." It's hard enough trying to understand it myself!

Or again, in the context of checking grammar, you could have two sentences like "I was their father" and "I was there, father". Two totally different meanings, but two very similar sentences, and a good grammar

checker would have to sort out the nature of the comma and how it changes the nature of the statement. Herein lies one important fact, though. A good spelling checker can offer considerable help to the poor speller, though it won't check the grammar. However, if somebody is very poor on punctuation and had missed out the comma in the second of those two example sentences, the grammar checker would be unable to decide which one the writer actually meant.

Therefore, does the writing of a grammar checker program become impossible? Certainly it would on normal home computers as they stand at present, you would never have the memory available to store all the necessary information. In our "father" example, if the grammar checker came across something like that without a comma it would have to ask the user which one they meant, presenting examples of both in use for the writer to choose which one to use. A half-hearted grammar checker that ignored such problems would be worse than none at all, so I think we home computer users will have to rely on common sense for quite some time to come. We can still use spelling checkers, though...though!

"A psychiatrist must have some inherent curiosity to begin with, because (we hope) he wants to find out about their patient, but it is hard to envisage a computer being curious."

On the side of justice, on the other hand, does a desire for such a state turn an A.I. psychiatrist into a true detective? What about curiosity? How on earth do you try and "teach" a computer to become curious about something, in order to discover the exact events behind a crime? A psychiatrist must have some inherent curiosity to begin with, because (we hope) they want to find out about their patient, but it is hard to envisage a computer being curious. However, and here we get back to the science of A.I. again, we can give the computer the impression that it is being curious merely by making it ask pertinent rather than random questions. All of which brings us back to our Eliza program.

So far we have seen the main core of the program, the parser, and three separate sub-sections dealing with such diverse topics as mothers, money, and technology. If the patient is not talking about any of those three subjects the actual conversation side of Eliza is a mite limiting. For the rest of this article, then, we will make advances in that direction, and see if we can turn our program into a more interesting version of its form so far.

For that we need to divert from the main flow of the program and change some of the existing lines and add a host of new ones. If you have been following this from the start then that should not present any major problems. If you have not, then I'm sure they will be happy to send you back issues of CCI from the relevant department at CCI Towers, in return for a modest fee of course.

The first line to add is line 85, which just checks for someone typing in a phrase containing the word "i've" and converts it to "you've" where required. Line 125 comes next, and it is this one which diverts the program to our new section for this month, which commences at line 600. More of that in a moment. Line 294 is an alteration to the existing program, although you may care to leave it as it was. If the user types in a sentence with a comma, the original version of the program merely removed the comma from the input. Now, we place the portion of the sentence after the comma into the input sentence cm$, and the portion before into the previous input pr$.

Line 338 next, and this is just a change to a reply from the computer. Lines 360 and 361 are there to accommodate the new routine, both to ensure that program flow goes to the correct place and to start off the first of the checking routines in the section from 300 onwards. Those are the alterations to the existing program, now it's time for the new routine.

This, as I have said, occupies line 600 onwards, and there are some 41 lines in total. Watch out for line 656, where you'll have to use the abbreviation ? for PRINT in order to fit it all in.

Line 600 first of all, a helpful rem statement to help you know what we're doing. Line 601 checks that the user isn't repeating what has already been typed, before line 602 stores the new input cm$ into the previous input string pr$. This just helps to keep track of what has been entered. Line 605 then sends us off to the much used routine at line 310, which stores the input as separate words in the array s$(). Note that s$() is only dimensioned to 50 elements, and some smart alec might try and type in more than that, so either increase the dimension or limit the length of input if you think that someone's going to do that to your version of the program. Line 610 resets the general conversation variable gs so that we know where we are, and the rem statement in line 615 whispers the topic of the next few lines.

Lines 620 to 624, and lines 626 to 630, form two separate checks to see whether the topic under discussion is either a man or a woman. Since a lot of people seem to spend most of their lives either talking about the opposite sex or thinking about them, such checks seem to be appropriate to a program of this nature. I have tried to make sure that the male/female terms are corresponding ones, and I am sure you could go further than this in your own version of the program if you wanted to. Anyway, if one of the topics under discussion is a woman then the variable b is set, and if the user is talking about a man then the variable c is likewise set. These two variables are used later on, as is the bt one in line 631. This is set if the computer already knows the sex of the user. If neither man nor woman is being talked about then line 632 skips down to line 640, otherwise if bt has not been set and we haven't gone to line 640 from line 631 then the computer is about to ask a very personal question.

This is a query about the sex of the person using the program, and this knowledge is used by the computer to decide what it is going to say in response to whatever the input might have been. You can of course lie to the machine, and might indeed get some fun out of doing so, but then the nature of these programs is such that you can lie to them anyway. A.I. responses can only be governed by the input from the user, no home computer can tell by the feel of the hands on the keyboard what sex it is conversing with. It might be able to gauge from the responses, but wouldn't it be embarrassing if it got it wrong?

This check occupies lines 633 to 638, and makes use of the input subroutine commencing at line 160 to get is response. Since it wants to know whether you are a man or a woman, it asks the straightforward question "Are you a man or a woman?", and if the reply doesn't contain either of those words then the computer will not let you carry on and will insist that you answer the question one way or the other. As a concession to ladies it does not ask for age. This month, although it might do next time around. Line 639 ends this little session in a polite enough fashion once the computer has got the information its seeking. The variable se then keeps track of the sex of the users, being set to 1 for a man and 2 for a woman.

cont. on next page

Artificial Intelligence

continued from page 45

There is no significance in these numbers, don't write in and complain!

The single line 640 could be considerably enhanced in your own copy of the program, and could (for instance) be expanded to produce references to wives, husbands, boyfriends, girlfriends, etc., just as a spot of additional humour.

"As a concession to ladies it does not ask for age. This month, although it might do next time around."

People talk about the same sex for much greater reasons than rivalry, I'm sure! If, on the other hand, the user is talking about a member of the opposite sex, then line 645 sends us down to line 685. If the user persists in this discussion about the opposite sex then line 646 sends them to line 686. You may care to amend line 686 to reset the variable sm at the end, if you so wish.

The intervening lines, line 650 to 684, consist of a series of small checks if the user happens to be talking about nothing in particular. Line 650 contains the variable ao, which allows the user to warble on twice before it is reset and we get back to the beginning again. Lines 652 to 656 are there to see if the user is being particularly negative about something e.g. they can't do something, or they will not do something, and so on. Lines 660 to 664 look and see if the user is going to extremes about anything e.g. something is very bad, or they had too much to drink the previous night, etcetera. Lines 670 to 674 look for the words "really" and "honestly", which tend to be used by people when they're trying to convince others more than themselves e.g. they really will do something. The final little check, lines 680 to 684, is for people talking about cats, dogs or pets in general, as they are sometimes wont to do. As ever, these sections could be greatly enhanced in your own program, catering for specific topics that you think might be brought up by particular people using the program.

This then brings us to lines 685 to 692. 885 is used when the user is first talking about members of the opposite sex, and is just a simple comment. Line 686 is used the second time around, and reminds the user that they are, after all, only talking to a computer. Remember, you might care to reset the sm variable at the end of this line. If we know the sex of the user then line 690 sends us back to the main flow of the program in line 150, otherwise line 692 sends us off to line 130, and thence to the main flow from there.

And that brings us to the end of this month's article, after enhancing our "stock" version of the Eliza program. As ever, you are more than free to alter the program to suit the requirements of those people whom you think you might wish to try it out on. Bye for now.

P.M.

```
Eliza - latest modifications and
additions

85 IF MID$(cm$,1,4)="i've" THEN cm$=LEFT
$(cm$,i-1)+"you've"+MID$(cm$,i+4):self=1

125 GOTO 600

294 IF MID$(cm$,1,1)="," THEN pr$=LEFT$(
cm$,i-1):cm$=MID$(cm$,i+2):GOTO 298

338 IF a=0 THEN PRINT "One word isn't mu
ch to go on.":GOTO 10

360 IF gc=1 THEN 610
361 b=0:FOR i=1 TO a

600 REM additional conversation
601 IF cm$=pr$ THEN PRINT"You're repeati
ng yourself ...":GOTO 10
602 pr$=cm$
605 gc=1:GOTO 310
610 gc=0
615 REM s-e-x!
620 b=0:FOR i=1 TO a:IF s$(i)="she" OR s
$(i)="she's" OR s$(i)="woman" THEN b=b+1
622 IF s$(i)="girl" OR s$(i)="female" OR
 s$(i)="wife" THEN b=b+1
624 NEXT
626 c=0:FOR i=1 TO a:IF s$(i)="he" OR s$
(i)="he's" OR s$(i)="man" THEN c=c+1
628 IF s$(i)="boy" OR s$(i)="male" OR s$
(i)="husband" THEN c=c+1
630 NEXT
631 IF bt=1 THEN 640
632 IF b=0 AND c=0 THEN 640
633 PRINT:PRINT"Interesting, let me ask
you something.":PRINT
634 bt=1:PRINT"Are you a man or a woman
? ";:GOSUB 160
635 FOR i=2 TO LEN(cm$):IF MID$(cm$,i,4)
=" man" THEN se=1:GOTO 639
636 NEXT:IF cm$="man" THEN se=1:GOTO 639
637 FOR i=1 TO LEN(cm$):IF MID$(cm$,i,5)
="woman" THEN se=2:GOTO 639
638 NEXT:PRINT:PRINT"Answer the question
!":PRINT:GOTO 634
639 PRINT:PRINT"Thank you.  It's useful
to know.":cm$=pr$:GOTO 605
640 IF (b>0 AND se=2) OR (c>1 AND se=0)
THEN PRINT"Do I detect rivalry?":GOTO 10
645 IF ((b>0 AND se=1) OR (c>0 AND se=2)
) AND sm=0 THEN sm=1:GOTO 685
646 IF (b>0 AND se=1) OR (c>0 AND se=2)
THEN 686
650 IF ao=0 THEN ao=1:GOTO 130
652 b=0:FOR i=1 TO LEN(cm$)
654 IF MID$(cm$,i,3)="n't" OR MID$(cm$,i
,5)=" not " THEN b=b+1
656 NEXT:IF b>0 THEN PRINT"Hmm, you're t
hinking negative. Bad news.":ao=0:GOTO 1
0
660 b=0:FOR i=1 TO a
662 IF s$(i)="very" OR s$(i)="too" OR s$
(i)="extremely" THEN b=b+1
664 NEXT:IF b>0 THEN PRINT"A bit extreme
, that remark?":ao=0:GOTO 10
670 b=0:FOR i=1 TO a
672 IF s$(i)="really" OR s$(i)="honestly
" THEN b=b+1
674 NEXT:IF b>0 THEN PRINT"Are you tryin
g to convince me, or you?":ao=0:GOTO 10
680 b=0:FOR i=1 TO a
682 IF s$(i)="dog" OR s$(i)="cat" OR s$(
i)="pet" THEN b=b+1
684 NEXT:IF b>0 THEN PRINT"Pets are very
 important.":ao=0:GOTO 10
685 PRINT"Showing your emotions now.":GO
TO 150
686 PRINT"You'll say anything to a compu
ter!":GOTO 10
690 IF bt=1 THEN 150
692 GOTO 130
```

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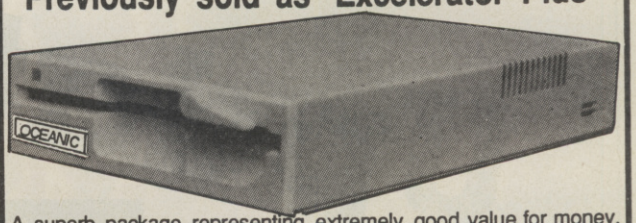

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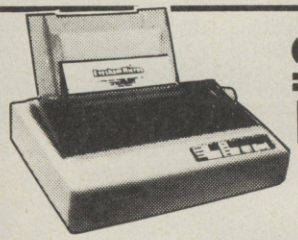

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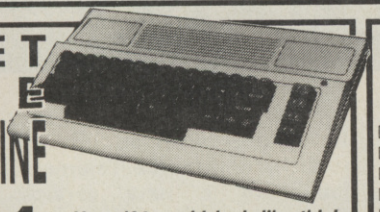

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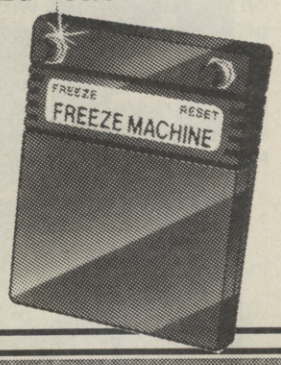

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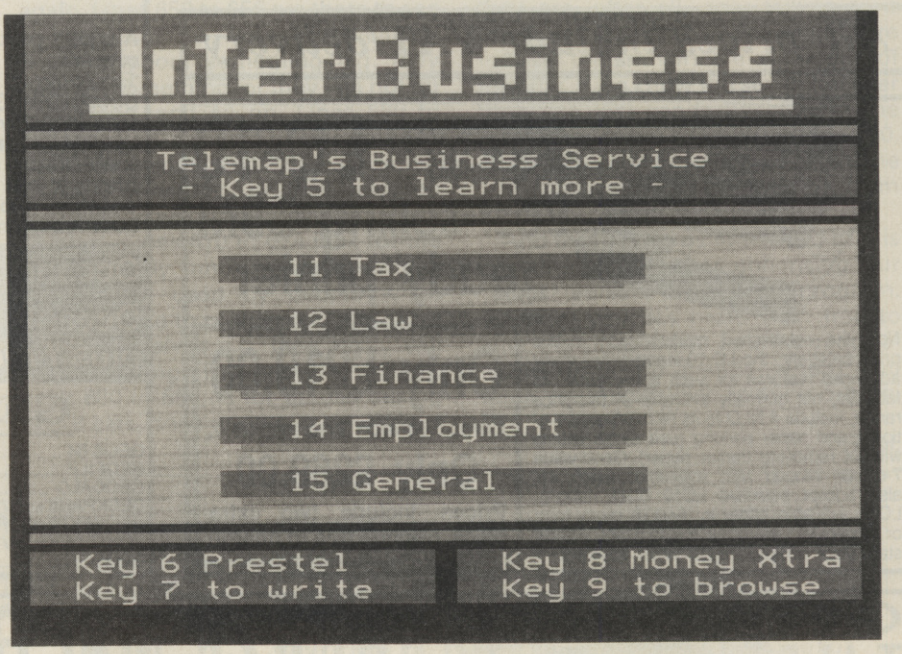
Micronet Update

of a new 16-bit telesoftware service. This, in addition to the Amiga micro magazine launched in April, means that there is a lot more for the Commodore user than this time last year. A wide range of programs will be available on the new service, including specially commissioned ones, and they are all free.



For adventure game fans, Shades has now been launched onto Telecom Gold making it available to the service's 105,000 users. It should prove popular with daytime users as it can be played at no extra cost during peak period (8am to 7pm when the standard charge is 6.5p per minute). There has already been a big increase in Shades activity during the day and it probably will not be long before someone reaches the hallowed status of wizard playing on Telecom Gold.

Shades will soon be played across the Channel as well, following Telemap's creation of Paris based subsidiary, Telemap SARL. The adventure game will be launched onto the Minitel system in France, which has almost four million terminals in use around the country.

Telemap has been busy elsewher on the leisure front, with the creation of a new on-line area called 'Xtra Voltage'. Aimed at the 'technology hungry yuppie' (as the publicity blurb says), Xtra Voltage is a weekly mix of news, reviews and features on CDs, Hi-Fi, video and even cellular telephones. But, they reassure us, you don't need a Porsche to access it. In reality, for anyone who is interested in hi-tech gadgetry, and even has a glossary of jargon, so you can impress your friends!

News for Amiga users is the launch

Finally, for the business user, or the home user with an interest in the world of commerce, Telemap Group is launching a new service, InterBusiness, in the last quarter of 1988. InterBusiness will provide a database of articles on sales, marketing, finance and virtually every other aspect of business.

Telemap Group has also linked up with the Legal Protection Group to provide a team of specialists who will answer questions on law, taxation and employment — you just send in your question on-line using the response frame provided, and an answer will be published within twenty four hours. The service will be available to all Prestel users, and further information is available from the address below.

For further information or a free demonstration go to Micronet's free demo database (using a 1200/75 band modem and viewdata software). Just dial 01-623 8855 and then enter the ID 4444444444 and the password 4444 to gain free access.

Contact: Micronet, Durrant House, 8 Herbal Hill, London EC1R 5EJ. Tel. 01-278 3143.

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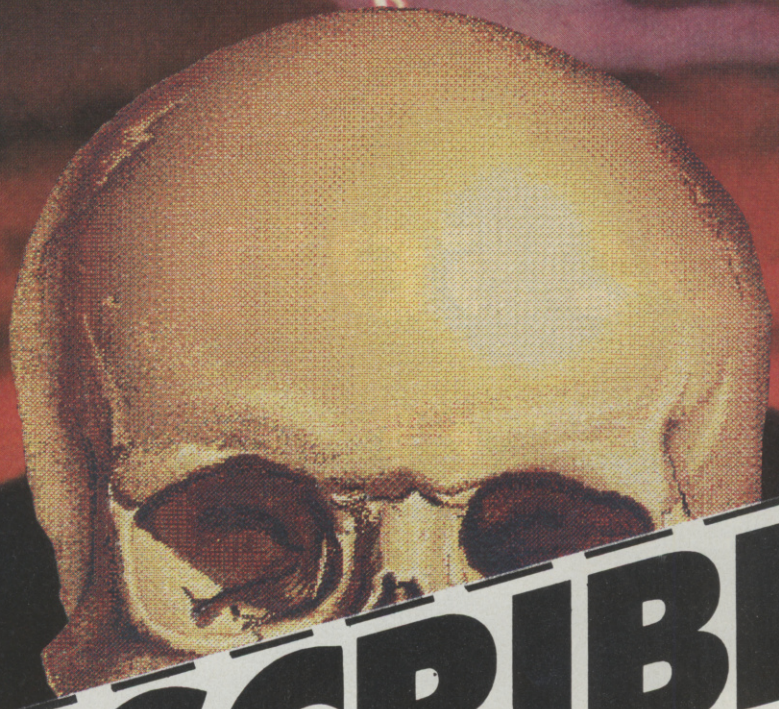

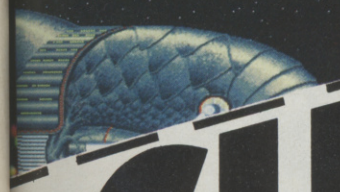

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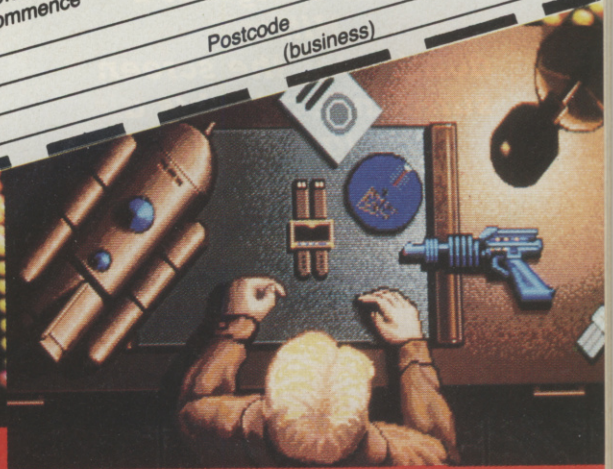

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A superb opening sequence sets the mood: a digitised Hitler dominates the screen surrounded by his air and land based troops. Credits roll up and soon after follows the scene in which you receive those gifts from the future. The combination of the lengthy intro and atmospheric music make you believe you really are Rocket Ranger.

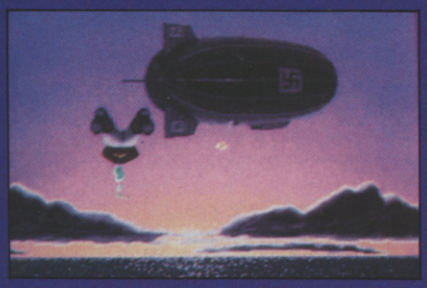
The story has it that the Nazis plan to win the war with their newly developed lunarium bombs. Extensive research into space travel revealed that the moon is the sole source of this incredibly powerful mineral, logically named lunarium. By chance this is the same substance that fuels your rocket pack. Chapter one opens with the news that Professor Otto Barnstorff and his buxom daughter Jane, a real dish, have been kidnapped by

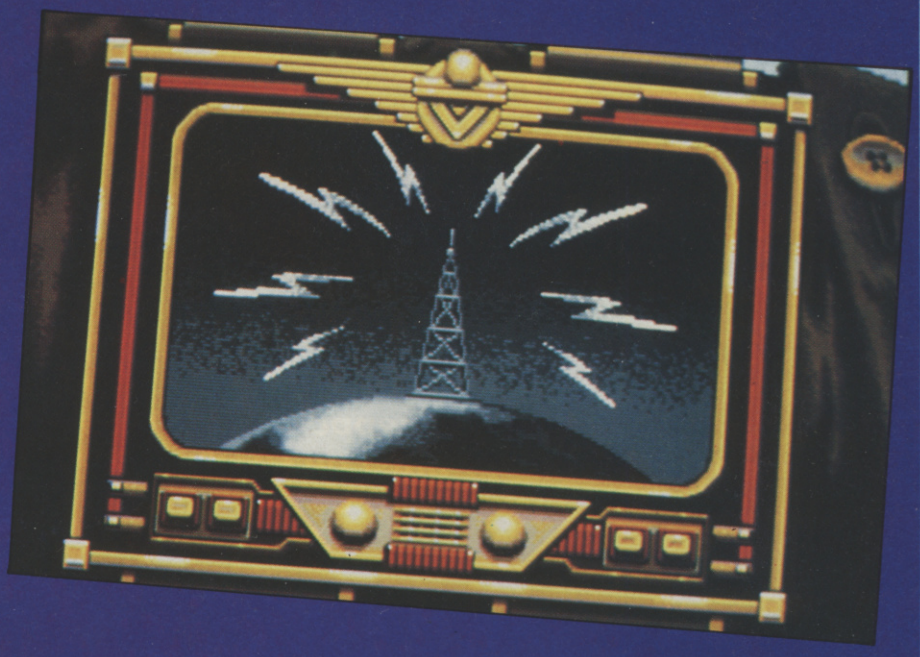
"Loosen up, dol
a mission f
ROCKET R

Until now, every Cinemaware release since Defender of the Crown has disappointed me a little. However, unlike many of these 'computer movies', Rocket Ranger not only looks and sounds amazing, it even has a generous dose of flowing gameplay thrown in for good measure! Cinemaware has struck gold, I can tell you contrary to what you may think, says Cinemaware, the Second World War was in fact won by Hitler who proceeded to enslave the population of the world. After years of secret work, a group of scientists have perfected the art of sending matter through time. Using this and other technology they have put

"A superb opening sequence sets the mood: a digitised Hitler dominates the screen surrounded by his air and land-based troops."

together a rocket pack, wrist terminal and a radium gun in a last hope to alter the course of history. One night as you sit in your lab, pondering the fate of the world, a set of mysterious objects appear before you in a puff of smoke, for, with your outstanding scientific knowledge and athletic abilities, you have been chosen to become Rocket Ranger!





a Nazi airship in an attempt to perfect Hitlers plans.

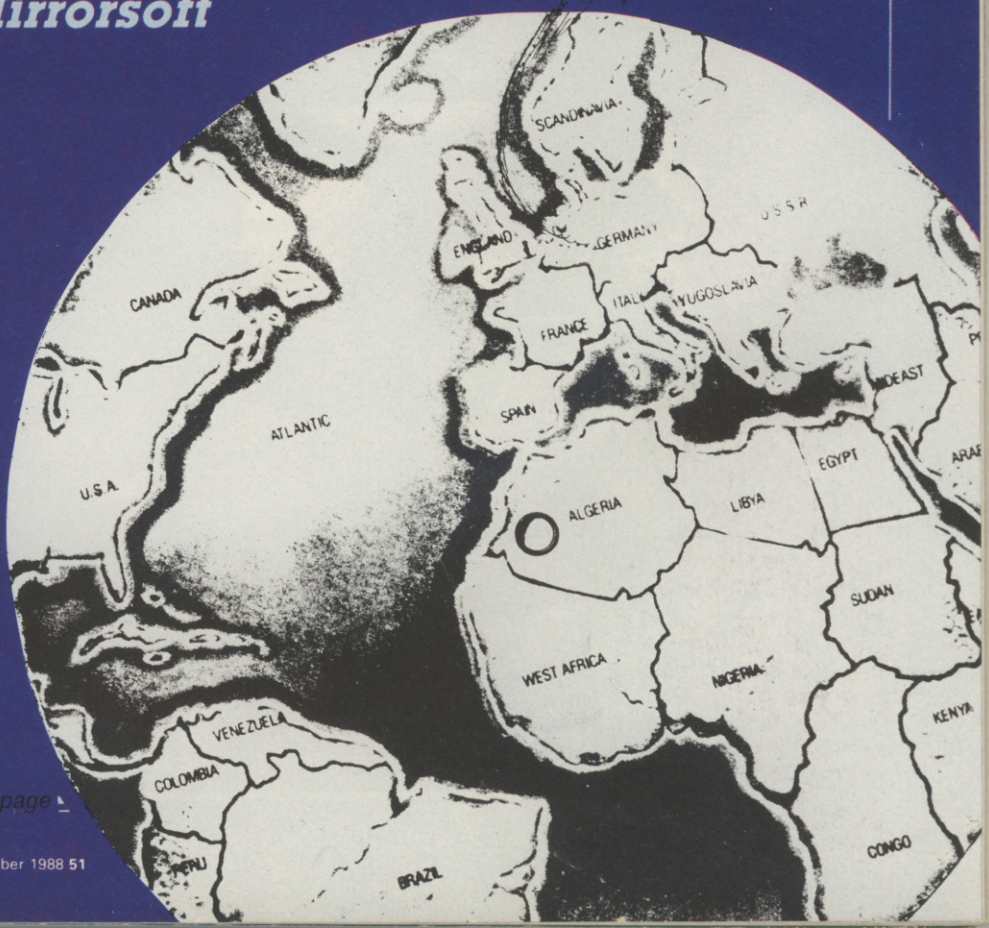
To ensure a perfect flight, before setting out you are asked to input the exact amount of lunarium you need to carry for the trip. This is discovered with the "secret decoder wheel" that comes with the game. It acts as a well disguised piece of piracy protection, similar to that of Interceptor, very clever indeed. That done you can get to grips with your new toy.

ollface. I'm on
n from God!"
T RANGER *Mirrorsoft*

A final screen of text gives you a brief summary of the take-off procedure. Adjust your leg straps, check your reserve 'chute, take a deep breath and fire up the rocket. A big, smoothly animated Rocket Ranger begins his take-off:

"If after three attempts you still fail to take-off you are automatically put into flight and given a few hints to help you out next time."

pressing the fire button with each step builds up speed until the rocket starts to bleep. Keep up the speed, push the stick up and all going well you will be launced victoriously into the air. Mis-time the take-off and you will be sent tumbling into an embarrassing



cont. on next page

ROCKET RANGER

continued from page 51

heap. If after three attempts you still fail to take-off you are automatically put into flight and given a few hints to help you out next time.

Once airborne, your course is plotted over a map of the world with a shadow of Rocket Ranger in flight projected over the top. As you reach your first destination you are confronted with a barrage of missiles being shot from the escaping zeppelin. (A fairly unusual night in WWII, don't you think?)

Extremely careful use of your radium pistol is called for here to fight off the missiles without piercing the highly explosive zeppelin. This is made even harder by the way that Rocket Ranger tends to tip back and forth as you move up and down. All this is played against deep purples of a sky lit by the setting sun. If you complete this section you can give yourself a pat on the back, it is not easy!

Once you reach the gondola slung below the airship you get a crack at pulling the prof's sexy daughter in a multiple choice conversation. As you can imagine, seeing a strange man wearing a rocket on his back in a situation like this, Jane and her father are not going to trust you in a hurry. Persuading them that you are not another of Hitler's henchmen is your biggest problem. You have to pick from multiple choice statements like "Loosen up, dollface" or "I'm on a mission from God!" Not quite the usual phrases you might employ to interest a goodlooker at a party. . . .

"A Space Harrier style game similar to the zeppelin encounter must be survived if you are to reach Germany."

More likely you will either be blown out of the sky or do the same to the zeppelin before you get that far. This gives you a chance to return to Fort Dix and see what your spies have got to tell you. These are stationed all over the world, not only in Europe but Africa and South America. From here you can find out the locations of Nazi rocket factories and survey the advancing forces.

Chapter two: Jane is about to become the guinea pig for the trial run of a mind control machine which has the power to transform sane healthy humans into zombies. (Like some magazines I know!) Reach for your rocket pack once again and set a course for Germany. A Space Harrier style game similar to the zeppelin encounter must be survived if you are to reach Germany. Fleets of fighter planes swoop around the screen, guns glowing from constant fire. Of course their ammo would be as good as invisible in real life, but not being able to see it leads to some frustrating and seemingly unfair deaths (a small tip is to attack the planes from above whenever possible).

Another multi-choice conversation follows in the torture chamber. A German guard gabbles digitised speech, fortunately subtitled at the bottom of the screen. Yet more wonderous and humorous graphics accompany the scene.

Other sub-games include a meaty punch-up with a German guard and a Raid Over Moscow style shoot-out in the South American jungle. Small sections of the game are in black and white to add to the war-time atmosphere. All the rest of the graphics make extensive use of shades of brown which somehow relay the look of the times, blotted by the Nazi presence. Music plays an equally large part, rousing you when a hero is needed, almost laughing at you when you make a cock-up.

Rocket Ranger's gameplay is not the very best around but has continuity and an unexpected addictive quality. Not only is this the perfect exhibition piece to boost Amiga sales, it is a stunning and very absorbing war-time adventure. Go on, take the mothballs out of your wallet, become Rocket Ranger and grab your chance to foil the Nazi empire! be a hero, win your doll-face and complete your mission to God. Rocket Ranger is one game that everyone — except Hitler — will love.

T.H.

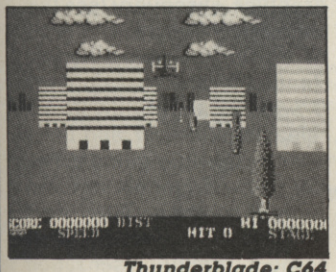
Graphics: 97%
Sound: 91%
Playability: 88%
Overall: 94%
Rating: AWESOME
Price: £29.99

Hot games soon...

Tony Horgan heard it on the grapevine...

Want to know what's coming your way in the next couple of months? In the first of a new regular feature we take a look into the crystal ball of games software to see what's in store for us hungry gamers in the near future.

With Christmas appearing close on the horizon, software houses are preparing for what they hope will be the massive winter spending spree, not least US Gold who are putting together an impressive line-up, the centre piece of which is, of course, **Thunderblade.**



Thunderblade: C64

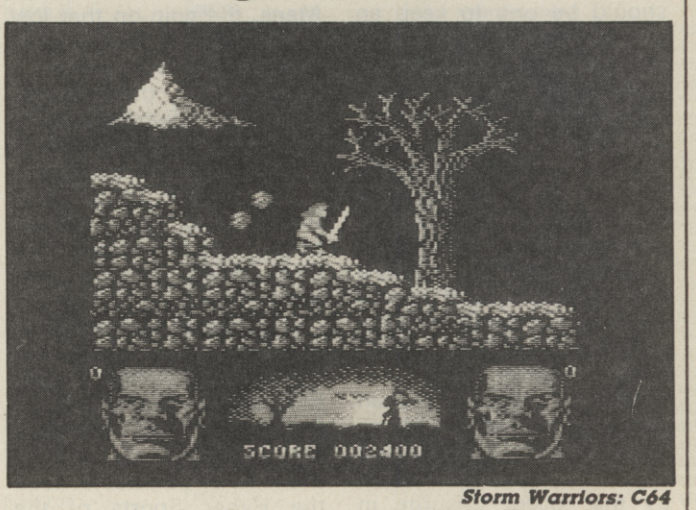
Sega's technically awesome follow up to Afterburner will be appearing on both the Amiga and 64 in time for Santa's rounds. This immensely powerful machine is currently being crammed into a 64 by the boot of Chris Butler, programmer of *720, Ghosts 'n' Goblins* and more importantly Space Harrier, with the Amiga version being carried out by Tiertex *(Rolling Thunder and Street Fighter).*

In the European arcades, Thunderblade out earned Afterburner and US Gold are confident of a re-run of that success when it hits our screens in December.

Possibly more exciting than that (surely not?) is the news that the Amiga version of **Outrun** is due out any time now. Friendly Fergus of Probe tells us that they've gone one better than just doing a straight conversion of the arcade machine and have added a few new features. Details including the key turning in the ignition, the engine revving and the screech of burning rubber will all be found in the finished product.

Bound to arouse a lot of interest is the 64 version of **Outrun Europa,** a new refined interpretation of the coin-op. You'll be interested to hear that Europa isn't being written by Amazing Products who programmed *Outrun* and *Roadblasters*, but an ex-Digital Integration programmer. Oil slicks, contra-flow systems and parked cars pose a threat to the sheen of your Ferrari, and don't forget to eat up your carrots, eagle eyes are needed for night driving sections!

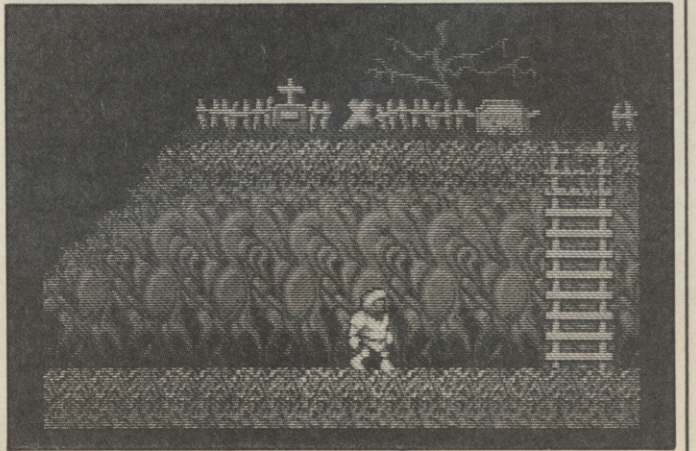
Coming very soon from Epyx is **Games: The Summer Edition.** First impressions lead us to believe it's a great improvement over the disappointing *Winter Edition.* Pole vault, cycling, uneven bars, diving, hammer throwing, hurdles, archer and the rings put your strength and agility to the test (well, in fact, they test your joystick waggling more than anything). New control methods and different view-points on the events make the Summer Edition a very promising addition to the series, but can Epyx ever hope to top *California Games*?



Storm Warriors: C64

Elite's plans sound very interesting: for 64ers there's **Storm Warrior** looking like a cross between *Rastan* and *Beyond The Ice Palace;* **Wanderer,** a 3D space game that uses coloured glasses for a true 3D effect, and **Super Trucks** which (surprise, surprise!) is a driving game.

There's no call for jealousy from Amiga gamers though, with conversions of **Space Harrier, Overlander** and **Ghosts 'n' Goblins** on the way and looking great. Shortly after the release of Space Harrier you can expect to see **Space Harrier II** based on the remaining levels of the coin-op that couldn't be fitted into the first.

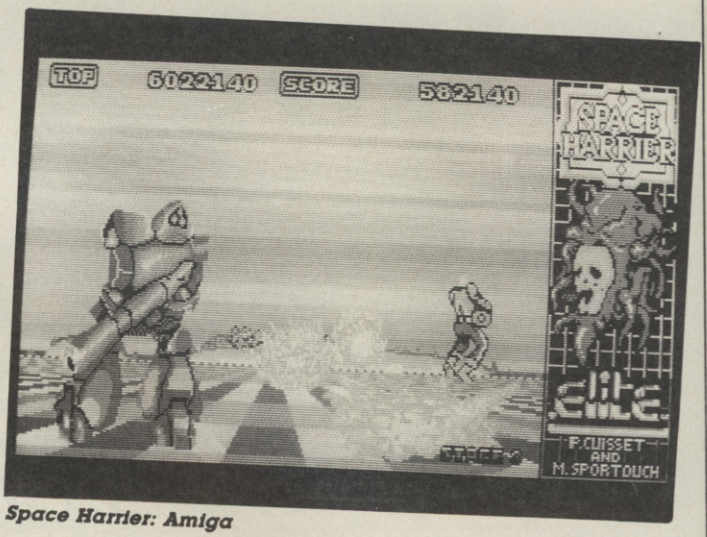


Ghosts'n'Goblins: Amiga

cont. on next page

Hot games soon...

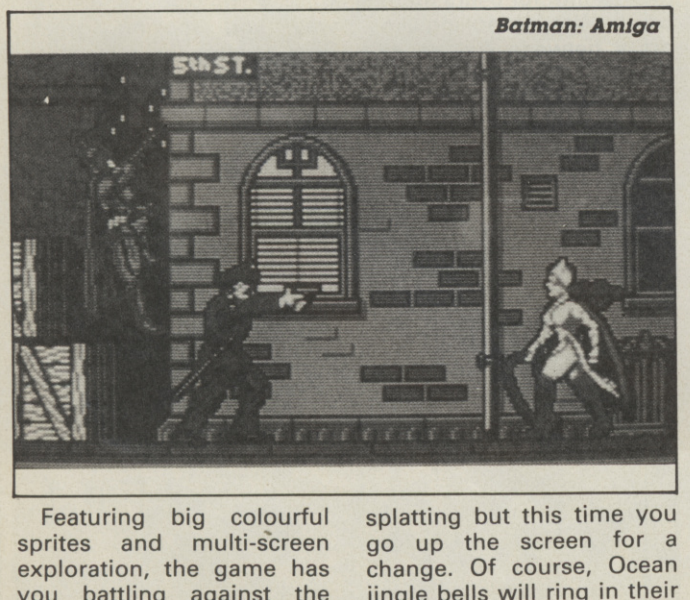
continued from page 53



Space Harrier: Amiga

Mediagenic are currently putting the finishing touches three big arcade licenses, **Afterburner, R-type** and **SDI,** all three appearing on both 64 and Amiga. Afterburner's Amiga version is bing programmed by Jes Sans' Argonaut Software (*Starglider II*, the new Amiga No. 1) so that should be one to keep an eye out for. Work has just started on the Amiga version of Sega's **Super Hang-on** and if the quality of the recently completed ST version is anything to go on you can expect a real rival for US Gold's *Outrun.*

Batman's first appearance in a computer game was a few years back in a 3D arcade adventure of the *Knight Lore* kind. It was fun but I couldn't help thinking there was more to Batman than jumping around platforms in a maze of trap-filled rooms. No doubt encouraged by the recent upsurge in Bat's popularity, Ocean are producing a totally new adventure for the Caped Crusader. Programming team Special Fx (Firefly) are the ones behind the game.



Batman: Amiga

Featuring big colourful sprites and multi-screen exploration, the game has you battling against the cunning of The Penguin and Joker. With the help of your utility-belt and batarang (like a bommerang but shaped like a bat) you must seek out The Penguin's lair and foil his plans of building an army of mechanical penguins! All in a day's work for superhero.

The rest of Ocean's schedule is dominated by coin-ops and films. **WEC Le Mans,** the coin-op that lost the battle of the g-force simulating driving games to Outrun is in the pipeline, with the predictable but fun beat 'em up **Dragon Ninja** also being converted for the home market. Tough guys **Rambo** and **Robocop** are both to be the subjects of more tie-ins in the near future.

A quartet of back-catalogue coin-ops can also be expected to appear on Amiga screens before the year's out. If Rambo III and Robocop aren't enough, try tackling the likes of **Combat School,** the Hyper Sports of the military world, **Green Beret,** absolute enemy masacre over horizontally scrolling levels, **Gryzor,** more carnage as in Green Beret and finally **Jackle,** even more enemy splatting but this time you go up the screen for a change. Of course, Ocean jingle bells will ring in their contender for that December 25th top spot, **Operation Wolf.** If you've played the coin-op (who hasn't?) no doubt you'll seriously consider adding this to your "please give me..." list.

We were promised more games featuring Herbie Stone, that lovable caveman who appeared in Linel's *Crack,* and here's the first: **Dugger** for the Amiga which looks like a souped-up version of *Dig Dug,* a forerunner of *Mr Do, Boulderdash* and other rocky, muddy games with cuddly characters. Comic fans will warm to the news that a mini-comic book comes with the games, some parts of which are even verging on the wheeze-worthy.

We hear from Martech that **Nigel Mansell's Grand Prix** is very nearly finished (honest!). After some programming problems, coder extrordinaire Simon Nichol (*Mega Apocalypse*) was brought in for some assistance, so all going well it should be roaring into the shops pretty soon.

Due out any time now also from Martech is **Shoot Out,** a rootin' tootin' hootin' shoot out. Gulch Creek needs' a cleanin' up an' you gotta get the job done! With guns a blazin', get out there an' teach them ol' critters a thing or two before my apostrophe key drops off!

Other snippets include what has to be the sports license of the century: Daley Thompson? Peter Beardsley? Gary Lineker? Who needs them? Not ASL, for they have signed up none other than the one and only **Emlyn Hughes!** Bearing a remarkable resemblance to International Soccer, their contribution to the football games market will feature sliding tackles, diving goalies and sixteen way shooting. Check out the next issue for the review.

There are some brilliant offerings about to make the flight over the Atlantic from the USA. Artic are bringing out the first Amiga Ham (Hold and Modify Mode) game. About a plague sweeping the earth (no relation to *Virus,* of course!) it has truly splendiferous graphics. Discovery (see this issue) are releasing *Sword of Sodan* follow-up **Hybris.** Readisoft are to bring out *Dragon's Lair.* Mindware are releasing *Charon* and there is a mysterious game called *Kill or Be Killed* about to hit Amiga screens. Starvision, from Denmark, are showing some really sensation graphics for some future releases. And there is a solid rumour that Psygnosis are to bring out seven new games including one that promises to set new standards *'Aquaventura'.*

Lastly, the Amiga version of *Captain Blood* (just released on the 64) is still not quite with us. When asked how it was going, we were informed: "Quite nicely, thank you". Further investigations lead to the discovery that last minute programming troubles have held it back a short while, we live in hope...

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Charts

Chart Chattering Happenings . . .

Maria Whittaker has brested the tape first again. . . . After the U.K. postal strike it is clear that there have been shakeups in the charts with new Number Ones in all categories. Barbarian II, reckoned by many to be far superior to the original enters powerfully at the Top Spot, displacing Ocean's Salamander. However, the Manchester-based software leader has come up with another fast riser, new entry, at Number Two, Daley Thompson's Olympic Challenge, which in Silver Medal place is doing better than Daley did in Korea! Track Suit Manager slips one to Four but U.S. Gold's Roadblasters drives up from Seven to Five. Another new entrant from "Gold" is 1943, in at Nine. Grandslam's Peter Beardsley's International Football makes the third footie game in the Top Ten with an entry at Eight and the Cosmi/Microprose Mega-rated The President is Missing starts to climb from Number Ten (or should it be The White House?!).

On the Cheapo front, the biggest all-time seller ever in the U.K. market Gauntlet now from U.S. Gold's budget label Kixx hits top spot at first try. It has kixxed out (sorry, couldn't resist that one!) Encore's Battleships which sinks a place. Rally Driver from fast-growing Alternative speeds up to Three and Cascade's ACE zooms in at Four. Skateboards are RAD these days and Codemasters have jumped successfully onto the bandwagon with their (surprise, surprise!) Simulator.

On the Amiga front, there is the third new Chart leader, the amazing Starglider — Jez Sans' gift to all space fans — in its II version grabs Top Spot (as we predicted, of course. No, thank you, no applause, just cheques). But you have to admire Rainbird for their Amiga efforts. They take the first three positions with last month's Number One Carrier Command (not Commando as our typesetter spelt it!) holding at Two and new entry, Jeff Minter's favourite, Virus making it to Three at first try. Another newie is Psygnosis highly-regarded Menace, looking like a challenge for higher things next month. Still clinging to Five is the ex-champ, E.A.'s Interceptor. By the New Year, we'll probably need to go to an Amiga Top Ten.

	GAME TITLE	COMPANY	PRICE	RATING
1	Barbarian II	Palace	£9.95	Mega*
2	Daley Thompson's Olympic Challenge	Ocean	£9.95	Ocean*
3	Salamander	Ocean	£9.95	Mega*
4	Track Suit Manager	Goliath	£9.95	T.B.A.
5	Roadblasters	US Gold	£9.99	Crisp
6	Football Manager II	Addictive	£9.99	Crisp
7	Vindicator	Ocean	£8.95	T.B.A.
8	Peter Beardsley's International Football	Grandslam	£9.95	Mega*
10	The President is Missing	Cosmi	£14.95	Mega

Budgets

1	Battleships	Encore*	
2	Gauntlet	Kixx*	
3	Rally Driver	Alternative	
4	Ace	Cascade*	
5	Skateboard Simulator	Codemasters*	

Amiga

1	Starglider II	Rainbird	£24.95
2	Carrier Command	Rainbird	£24.95
3	Virus	Rainbird	£24.95*
4	Menace	Psygnosis	£24.95*
5	Interceptor	Electronic Arts	£24.95

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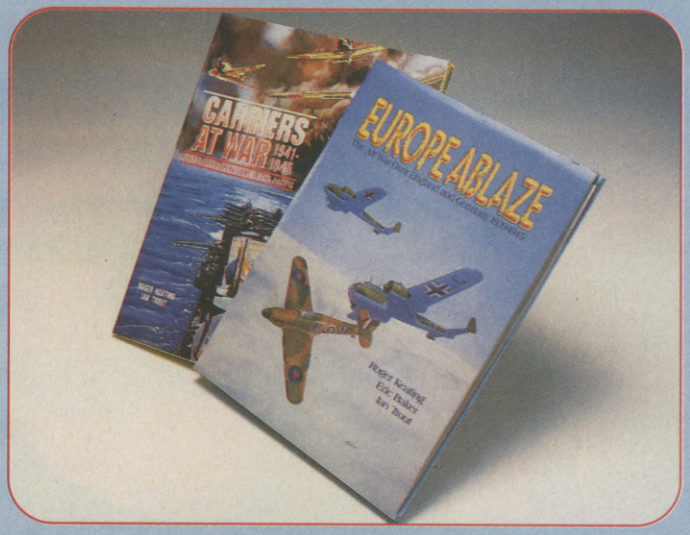

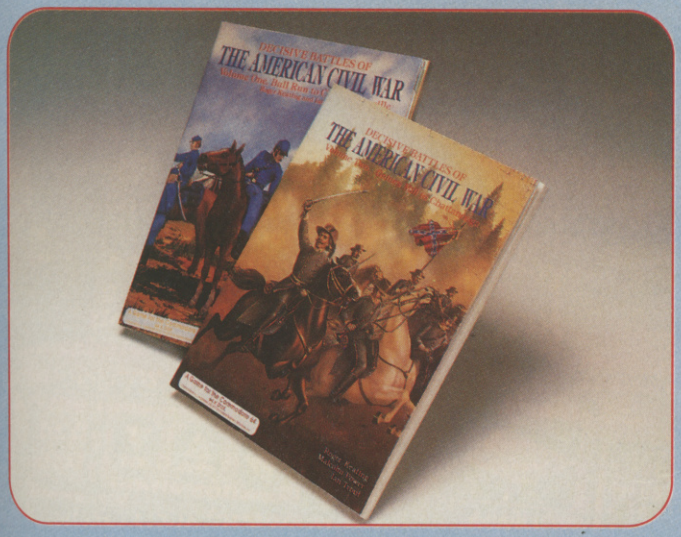

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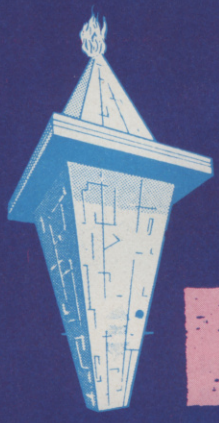


Driller, the first game written with Incentive's Freescape system is about to surface on the Amiga. Freescape is a system that allows the creation of landscapes which can be viewed in solid 3D from any point looking in any direction. This is really no different in theory from the display routines used by games such as Mercenary and Battle Zone, except for the solid graphics replacing the transparent vectors. However, it certainly seems in practice more visually exciting and pleasing.

Your mission in Driller involves the stabilising of a moon on the brink of explosion. Ever since a hostile race known as the Ketars fled the moon, a great build up of gas caused by disused mines has threatened the existence of Evath, your home planet. You have been sent up to relieve the moon of its gases by drilling into the surface of its 18 sectors.

Problems arise when you realise that the gas is in small dense pockets in each sector and you have only been given one drill per sector. This calls for a great deal of exploration and observation of every nook and cranny of the moon. Fortunately, clues have been laid down to the pockets' exact locations, some obvious, some highly disguised.

Sector one is marked with a massive cross, but even then getting an accuracy score of 100% is not easy. Fortunately, 50% is all that is needed to compete a sector. Placing the drills is your main concern, but ther are far more problems besides that.

Problems mainly come into two types: the first are where to put the drills, the second concern getting around the place, over obstacles and into buildings. The moon has defence systems all over the place, most of which are laser turrets that zap your shield energy. To even the odds, you are supplied with your own laser that usually gives as good as it gets. Switches can be found and frequently open previoulsy invisible exits to new areas.

Exploration of the sectors surrounding the start point is sensibly fairly easy to get into, but actually getting anywhere near your goal is another matter. Although a big manual is supplied with the game there are loads of curious puzzles and situations that are left up to you to figure out.

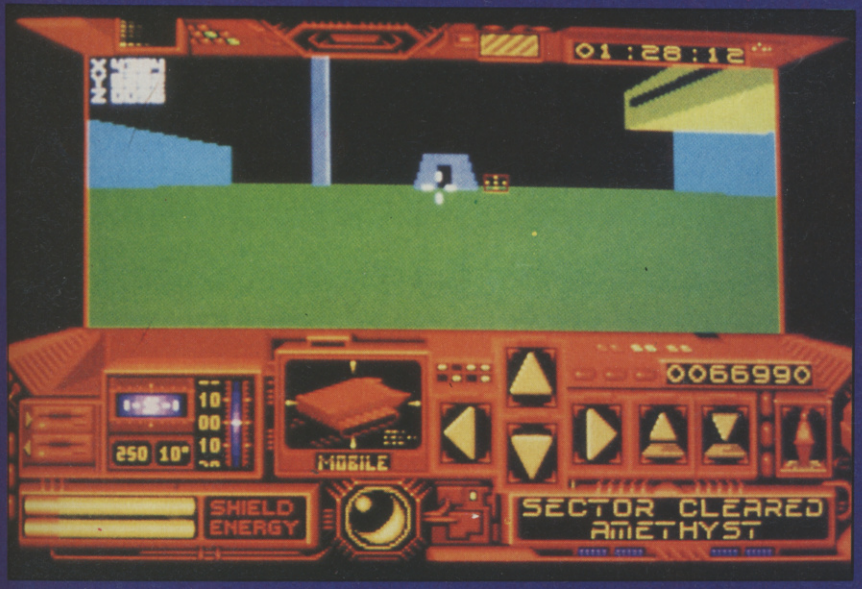
Naturally the speed of the original 8-bit versions has been vastly improved, but do not expect the fluid movement of

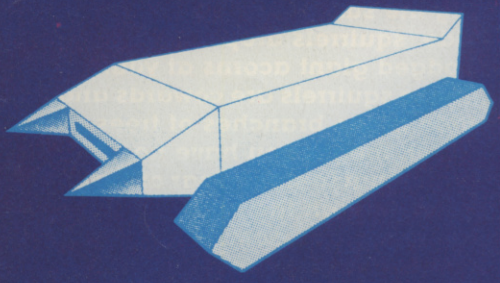
MEGA Driller

Incentive

Starglider II or Carrier Command. The original combination of keyboard and joystick controls has been replaced by an interactive control panel operated by the mouse. These enhancements, together with a few new game features have improved on the original game whilst keeping the puzzlement and atmosphere. Not everyone's game by any means, but if you like the idea of exploring a new world filled with unexplained mysteries to be solved, Driller already rightly considered a classic on other formats is the game for you. Highly recommended.

B.V.





Graphics: 81%
Sound: 61%
Playability: 83%
Overall: 81%
Rating: MEGA
Price: £24.95

C64

MEGA

Foxx Fights Back

Image Works

ATTENTION all fox lovers: (Yes, you too Foxy Lady Campos!) the ideal game to keep your occupied between hunt sabotages has arrived! Mr Foxx has taken just about as much as he can from huntsmen and their hounds haring after him. It is time to hit back. What is more, Mrs Foxx has kicked him out of the set with orders not return without a sizeable stock of food for the family.

You can always count on Denton Designs to come up with something a bit different, and when added to some of their past hits, Eco or Frankie Goes to Hollywood for example, Foxx Fights Back goes even further to prove their unrivalled versatility. The core of Foxx's gameplay is really not that unusual, it is the theme that gives it most of its appeal.

Foxx begins outside the entrance to his set. As you bound along the screen exploring the surrounding countryside, squirrels drop easily dodged giant acorns at you. These squirrels are cowards and hide in the branches of trees which means you have no option but to steer clear of them. Soon enough the huntsmen's hounds arrive, some on foot and others on motorbikes.

Now's your chance to try out your pistol, blasting the dogs to save your skin. Yeah! Foxes hitting back at the upper class, right on! As it happens this fox proves himself to be a right nut job; you may well get a kick out of the anti-fox hunt view of the game, but if you are to survive you will have to raid hen coops and worse still, seek out burrows and eat fluffy little sleeping bunnies!

Food comes in two types: immediately edible types including chickens and bunnies, and others that must be collected and taken home to the set. Return to the set laden with supplies and your energy will be topped up. Instead of the usual energy bar, Foxx's strength is shown by the length of his panting tongue.

With each game you get a little further along the smooth scrolling landscape. Foxx is beautifully animated in his loping strides and flying leaps. All the rest of the backgrounds and sprites are very colourful, smooth and comical, fitting in well with the game's backward scenario. Sound too is impressive, either appropriate effects or an extremely bouncy tune can be selected.

Although Foxx Fights Back is generally a great game I have a few points to make against it. One is that the "to and fro" nature of the game (finding food and taking it back home) could lead to slightly early loss of interest, and the other is that the computer often takes you a long way back through explored territory after a death. Even so, Foxx Fights Back remains a very playable and lively romp for fix lovers and hound haters alike.

T.H.

Graphics: 82%
Sound: 81%
Playability: 79%
Overall: 80%
Rating: MEGA
Price: £9.99 (c)
£12.99 (d)

HORGAN'S HINTS

As usual, Robert Troughton has been hard at work over the last month, hacking any game that cares to come his way. Together with a bundle of his pokes, you lucky things have also got a map of Zeppelin's Draconus that I would have included a couple of months ago if I hadn't lost it (probably got sucked in by the allengulfing black hole behind my desk).

Hawkeye
Our old friend Rob the Trout is first off the mark with this couple of pokes. Load and reset before entering:
POKE 7468,173 (unlimited lives)
POKE 6105,189 (unlimited weaponary)
SYS 23558 (starts the game)

Vindicator
A goody bag of pokes for this over-difficult three parter. Reset the computer whilst in the appropriate section, type in your chosen pokes and restart with the SYS.

Part One:
POKE 35921,173 (unlimited lives)
POKE 37502,96 (unlimited oxy-gum)
POKE 36063,189 (unlimited ammo)
POKE 36169,128:POKE 36171,189 (makes all terminals accessible)
POKE 36464,128 (just press return when asked for the password)
SYS 34480

Part Two:
POKE 38632,173:POKE 38657,173 (Unlimited jeeps)
POKE 36466,173 (unlimited grenades)
POKE 37978,0 (constant fuel)
POKE 38032,0 (for constant status)
POKE 38449,169:POKE 38450,1
POKE 38451,208 (no collisions in the plane)
SYS 32768

Part Three:
POKE 41893,173 (unlimited lives)
SYS 32768

Karnov
When you are asked to enter the number of players, reset and enter the following:
POKE 32991,165 (unlimited lives)
POKE 35884,165 (unlimited time)
SYS 32768 restarts

Dizzy
Enter these after reseting the game for infinite lives:
POKE 10776,173:POKE 15942,173: SYS 8192

Ninja Scooter Simulator
Now you can have all the time in the world, just reset the game and type this:
POKE 31250,173:SYS 29696

Stunt Bike Simulator
POKE 5526,173 for an unlimited number of attempts
POKE 4497,x:POKE 4501,x
Substitute "x" for the level you want to start on (0 for level 1, 1 for level 2 etc.)
SYS 3584 restarts the game

Howard Williams let me in on these next three cheats.

Fighting Warrior
I know it's ancient, but if you can de-cake the dust from a nearby copy, wop it in you drive/tape deck and reset after loading. Now you can take your pick from this lot:
POKE 57687,165 (infinite lives)
POKE 50078,x ("x" being the number of lives you want up to 255)
POKE 59413,165
POKE 59534,165
POKE 60326,165
POKE 62927,165 (infinite energy)
If you would rather reduce the enemies' power to 1 with a tap of the run/stop key, try these:
POKE 820,169:POKE 821,1:POKE 823,211
POKE 824,133:POKE 825,212:POKE 826,96
POKE 822,133:POKE 50813,32:POKE 50814,52
POKE 50815,3
SYS 49728 restarts the game

Light Force
Reset and type the following for infinite lives:
POKE 11547,5:SYS 6713

BMX Kidz
Here's a poke to freeze the timer:
POKE 9004,234:POKE 9005,234: POKE 9006,234
SYS 24586 to restart
Alternatively, type VIVALDI on the title screen and press a key from A to F to select a level (though I couldn't get this to work on my copy).

Train Robbers
Mark Norton who for some reason wants to be known as Elvin Atom-bender has bent a few rules with this cheapy. Load and reset to enter:
POKE 15338,173
POKE 15371,173 (infinite lives for both players)
POKE 15758,173 (infinite horse power for both players)
SYS 6871 restarts the game

The following cheats come from Boris Zerkovitz of Spain.

Arcana
A fair few pokes just for infinite lives but I'm sure your pinkies can handle it. Reset and type:
POKE 12976,169
POKE 12977,57
POKE 12978,141
POKE 12979,68
POKE 12980,34
POKE 12981,141
POKE 12982,67
POKE 12983,34
POKE 12984,96
SYS 4096

Wizardry
Enter these pokes for infinite energy after reseting the game.
POKE 49154,132
POKE 49284,169
POKE 49285,99
POKE 49286,141
POKE 49287,73
POKE 49288,101
POKE 49289,76
POKE 49290,29
POKE 49292,192
SYS 26969

Slap Fight
Dodge the first two ships and crash into the third (the ship not the bullet) and you'll appear in a far more advanced level of the game.

Mega Apocalypse
For a few variations on the usual game, reset and enter these:
POKE 22589,1 (more stars)
POKE 21841,170
POKE 28142,72 (different sounds)

cont. on next page

HORGAN'S HINTS

continued from page 61

POKE 32417,173 (player 1 is indestructable)
POKE 32509,173 (player 2 is indestructable)
SYS 22562

Bionic Commandos
More Bionic Commnandos cheats? Yes, and this one gives you a humungous bonus, about 1,000,000 if I remember rightly! What you do is finish a level just as the timer clocks onto zero. The first two levels are best for this as they just involve running up to the end of the level (shooting the guards at exactly the right time is much harder).

Work out the precise point that marks the end of the level, for example wait on the fourth block at the end of level two and step to the right with one second to go.

Menace
Just a little tip that could come in handy: if you have about a third or more of yur shield left at the end of a level, fly straight into the heart of the guardian and shoot it to death! Messing around dodging its missiles wastes time and shield energy.

Interceptor
Finding this most splendiferous of flight seems a bit tricky? If so, this listing from Royston Matthews will help you out. Load Amiga BASIC, enter the listing, save it to disk, run the program with your log disk in the drive (write enabled) and load the game. Insert the log disk as usual and you will be able to select any of the missions!

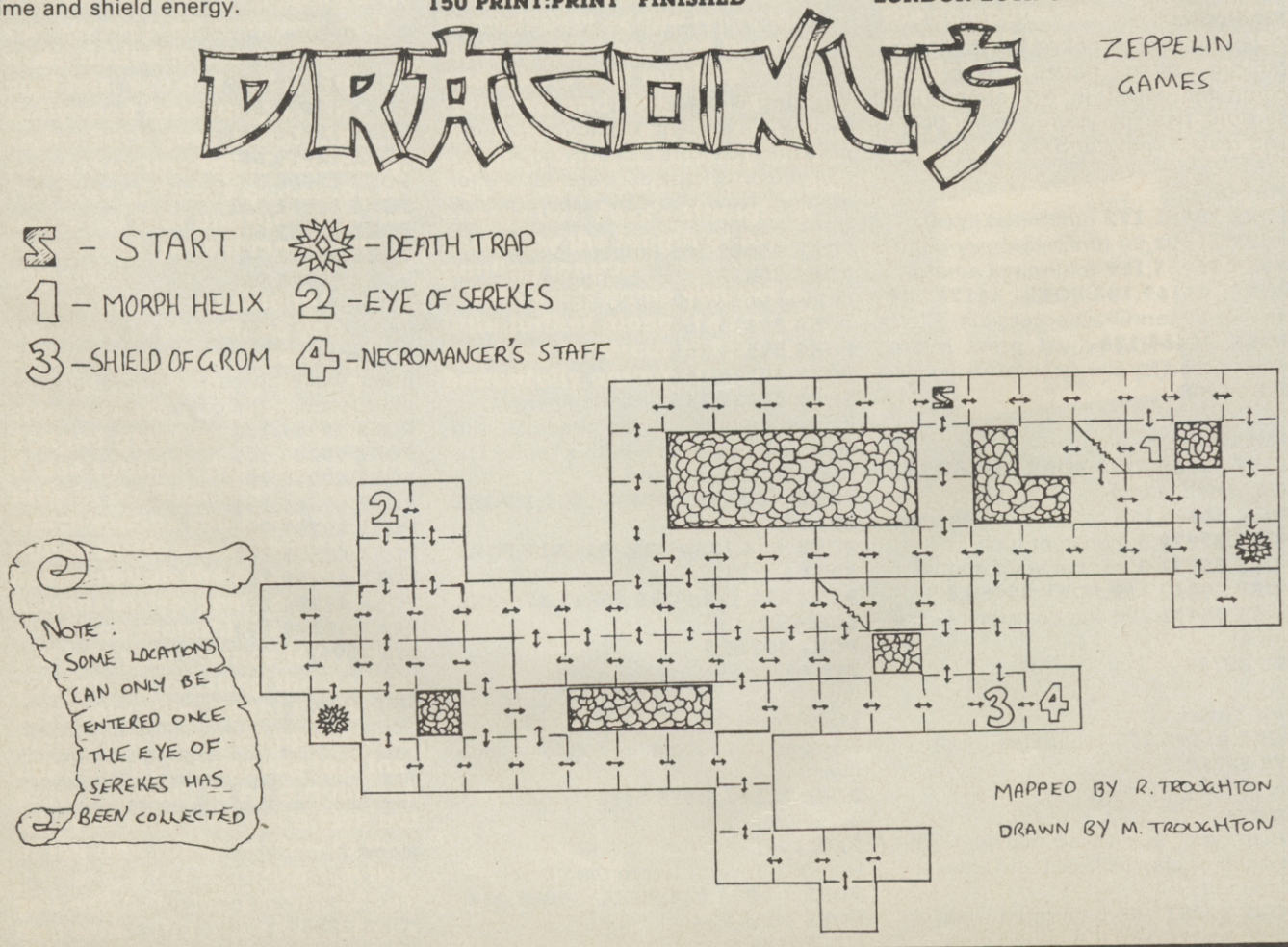
```
10 PRINT TAB (10)"★★ INTERCEPTOR
CHEAT BY ROYSTON MAT ★★"
20 PRINT:PRINT "INSERT YOUR
INTERCEPTOR LOG DISK IN DRIVE
0"
30 PRINT "AND PRESS ANY KEY"
35 WHILE A$=""
40 A$=INKEY$
50 WEND
60 PRINT:PRINT "PLEASE WAIT"
70 OPEN "R",#1,"DFO:CONFIG",1
80 FIELD#1,1 A$ B$
90 LSET B$=CHR$(1)
100 PUT #1,2
110 FOR N=22 to 27
100 PUT #1,2
110 FOR N=22 to 27
120 PUT #1,N
130 NEXT N
140 CLOSE #1
150 PRINT:PRINT "FINISHED"
```

Better Dead Than Alien
Here are the codes for Elektra's Space Invadors variant, once again from Royston Matthews.

Level	Code	Level	Code
1	Electra	13	Acoustic
2	Syzgy	14	Triptych
3	Drambuie	15	Jabberwocky
4	Plug	16	Whimsical
5	Soprano	17	Cornucopia
6	Mayonnaise	18	Punjabi
7	Faucet	19	Tiddly Pom
8	Potato	20	Kewpie Doll
9	Woomera	21	Sepulchre
10	Narcisuss	22	Euphemism
11	Debutante	23	Grammaria
12	Firkin	24	Crossword
		25	Quarantine

That wraps it up for this month. Keep them coming, but please no more Wonderboy pokes! The two and a half million infinite lives pokes I've already got are quite enough thank you. Any non-Wonderboy cheats will be gladly received.

***Tony* Horgan**
HORGAN'S HINTS
CCI
40 BOWLING GREEN LANE
LONDON EC1R ONE



A little history in the making...

The Independent Commodore Products Users Group (ICPUG) celebrated its tenth birthday at the November Commodore Show in London with a look back at its beginnings.

The first Commodore PETs to teach Britain arrived in February 1978. The price was £695 (plus VAT) for a computer with 8K RAM, a built-in monochrome screen, and a built-in cassette unit. The PET was favourably reviewed in Electronics Today International (ETI) which, together with Commodore, promoted an event at the Cafe Royal in London on 12 & 13 May, Petting for Beginners. This was the first occasion on which early PET users were able to meet one another.

Subsequently a letter from Norman Fox appeared in ETI suggesting the formation of a PET User GRoup. Initial response was slow: the first address list circulated, dated 29.8.78, had just 18 names. A fortnight later this had grown to 29, and after a further to 42. By 21.1.79 it had reached 178.

Robin Leaver organised the first meeting, in Bedfordshire on October 8th. The name IPUG (Independent PET Users Group) was adopted, the annual subscription was set at £2.50, and two officers were appointed: Mike Lake as Secretary/Treasurer and Ron Geere as Newsletter Editor.

The first IPUG Newsletter appeared in November 1978. It comprised just 2 double-sded A4 pages, folded to make an 8-page booklet, and was produced on a stencil duplicator. It reported that members had travelled from as far afield as Birmingham and Derby to attend the first London meeting, held at University College on November 2nd.

From this seed have grown this year's 128-page issues of the Newsletter, with laser-printed artwork and professional offset printing, and a nationwide network of local group meetings.

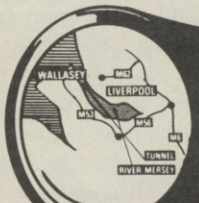
The second issue, in January 1979, saw a 50% increase in size — up to 12 pages. It reported that "our enthusiastic secretary has now got the Club a column in Practical Computing" and included an account of the first Club meeting in Britain to feature a talk by Jim Butterfield, introduced as "that well-known PET expert from Toronto". Jim has since become a regular and welcome visitor to the Seminars organised by ICPUG at the Summer Commodore Shows, and always manages to visit a number of local groups while in Britain.

The big news story of the month was that Petsoft, the first business set up to distribute PET software, had been taken over by Applied Computer Techniques — a company now well known under its newer name, Apricot.

The March Newsletter reported that a number of local groups had been formed, and details of the first 9 groups were included. Commodore's first year sales of the PET in the UK exceeded 4,000 machines. There were already 141 computer shops in the UK, most of which stocked the PET, as well as 184 Tandy stores. The price of the PET was reduced to £594.

In May the Newsletter doubled in size to 24 pages, and acquired a proper cover. July 1979 included the information that "CBM started 22 years ago repairing typewriters in Canada". September's editorial reported the Group's first Annual General Meeting, at which a Software Librarian (Bob Wood) was appointed and the annual subscription was increased to £6.50. November introduced the practice of printing a list of committee members inside the front cover, and included details of the six PET programs that were the beginning of what is now an enormous software library for all Commodore machines.

Since 1980 the subscription has doubled (£13 for 1989) while the size of the newsletter has quintupled and an array of other services for members have been introduced. ***Full details can be obtained from the Membership Secretary, ICPUG, 30 Brancaster Road, Newbury Park, Ilford, Essex, IG2 7EP.***



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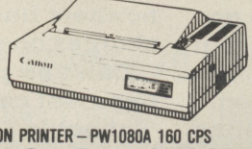

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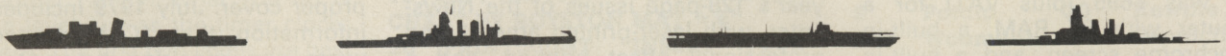
SUBBATTLE SIMULATOR

EPYX



It seems like it was only a short time ago when I first saw a Submarine Simulation program, 'Silent Service' from Microprose. Since then, there have been a number of programs simulating submarine warfare, incuding 'The Hunt for Red October' and more recently, 'Red Storm Rising'.

So when a company like Epyx, famous for their excellent 'Games' series, release a submarine simulator, called 'SUBBATTLE SIMULATOR' (what else?!) it ought to be good!

In this simulation you take the part of either an American or German submarine Captain, fighting either the Japanese in the Pacific or the English and American forces in the Atlantic, through a total of SIXTY missions!

If you choose a German Command, your game starts in 1939 or, because they entered the War later, 1942 for an American Command. The missions are broken into four categories; Search and Destroy, Rendevous (at an appointed place and time), Lifeguarding (rescueing people) and Patrol. On top of all that, you can choose to fight on a Single Mission, a full Wartime Command that will take you right through the War, or to go for Target Practice, each on four different skill levels.

Should you select a mission, you will be given a full briefing on exactly what is expected of you, including the longitude and latitude of any rendevous or suspected enemy shipping.

To help you on your way, full maps of both Theatres of War are provided which may be viewed from five different magnifications, plus, in the lower level games only, you also have the use of a friendly Navigator!

OK, that's the outside bit, so what's it like *inside* the Sub (figuratively speaking!).

Once again Epyxs' attention to detail doesn't waver, offering a total of EIGHT different screens (or twelve if you count all five different magnifications of the map screen!). These are each surrounded with the information that you will need to Command your Submarine, such as heading, speed, depth and bearing, plus armament and engine conditions.

The eight screens are the views from the periscope or conning tower or through binoculars, the aforementioned map screens, a side-on display of your Sub and anything else around it (including depth charges!), radar and sonar screens, and a full status screen which shows the current state of repair of the Sub.

If THAT isn't enough to think about, in the higher levels of play you will also have to contend with changing weather and sea conditions, an enemy of increasing ability and to top it all, AIRPLANES that appear from nowhere and drop depth charges on you!!!

Don't be put off by the apparent complexity of 'Subbattle Simulator' the controls are really quite simple, combining keyboard and joystick. Although a joystick is not necessary to play this game I always prefer to use one if possible. This is especially useful if a huge destroyer is intent on ramming you and you can't find the turn-left button!!

To get you started, a set of brief instructions are provided to get you going on your first Target Practice and used to handling your new Command.

With this amount of detail included, I was a little disappointed with the way the game actually *played*, and the appearance of some of the screens. The response-time to the joystick commands sometimes leaves you wondering if anything is actually going to happen. (On one occasion I thought I'd plugged the stick into the wrong port!)

Whilst I appreciate that there are limitations to what you can do with 64k of memory I found the views of the enemy ships through the periscope and binocular screens to be 'blocky' and sometimes ill-defined, and the 'Radar', which should move round in a smooth arc, jumps from one position to another. This is despite the fact that each 'screen' is loaded separately from disk as you select it.

Those few gripes aside, 'Subbattle Simulator' is a very reasonable attempt at a very complex and complicated subject. It will probably appeal mostly to those of you who want to get the 'sailing' over quickly (using the Time Compression feature) and get on with the REAL task of sinking battleships!!

(P.S. For all you Landlubbers out there, Epyx are due to release a 'Tank Battle Simulator' in the not-to-distant future!)

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Infogrames

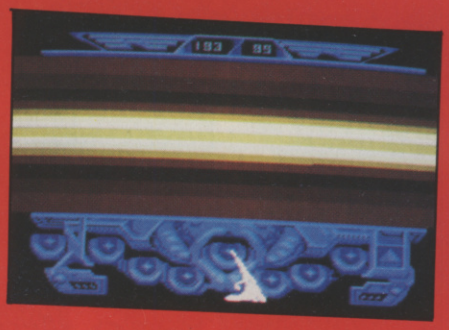
Captain Blood

Captain Blood was released a few months ago on the ST and stunned everyone who witnessed its sights and sounds. Most of these would be impossible to recreate on the 64, but a surprising amount of its original features have come through unscathed.

You are Captain Blood, about to embark on a galactic search for five clones of yourself that contain fluid vital to your survival. As this galaxy is made up of 32,768 planets, tracking them down poses a bit of a problem to say the least. Most of these planets are uninhabited, so to give you a chance the game always starts you off nearby one that supports life.

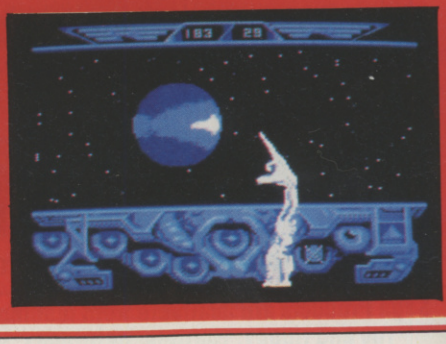
After watching it rotate for a short while you will want to get down onto the surface and make some friends. Mr Blood is too weak to travel down to the planet himself, so instead you send down a oorxx (a little alien born in the space ship). Control switches from Blood to the oorxx as he flies over the rocky surface of the planet. Guided by indicating arrows on the cursor you make your way to a trench, at the end of which you find an alien. Now you can start up a conversation in the hope of getting some info leading to the whereabouts of your clones.

The game's most interesting feature is the "Upcom" system that allows conversations to be had with any of the species of alien that you might meet. Your new-found friend's sentences come to you as a series of icons. Running Blood's finger over each gives an English translation. Talking back is just the same but in reverse; from a long scrolling panel of icons you construct your sentences and send them back to the alien. The info you are really looking for is co-ordinates for another inhabited planet. Aliens are reluctant to spill the beans, so a good deal of sympathetic listening and polite conversation is often essential to get onto the right track.



Some keep telling you of dangerous planets, others that they are sad and unpopular. Probably the most promising is the one who goes on about his kidnapped father. Each looks very different, ranging from cute and cuddly to repulsive and slimy. Talking to them can be a lot of fun but things can get a bit frustrating when you have been chatting for aged without getting further than discussing the alien's social standing.

If you hit it off with one of these creatures, it may give you



standing graphics and sound, but the gameplay is intact which is the most important thing. An Amiga version is due out any time now which you can expect to be the best so far. If you fancy some engrossing space adventuring, Captain Blood will sort you out!

T.H.

tain n n
ood d d

MEGA

permission to teleport it aboard the ship so you can take it with you on your travels. When you decide to leave the planet, a new destination must be selected from the galaxy map. Engage hyperspace and a few seconds of strobing colour bars lie between you and the next plant. On arrival you could take a few close-up scans of the planet surface to find out if it has defence systems installed, or alternatively you could blow it up.

Suprisingly, Captain Blood on the 64 seems to have kept all the gameplay of the original (at least on the disk version). Unfortunately, most of the game is without the superb speech and sound effects of the 16-bit versions, and the title screen music is a very weak adaptation

of Jean-Michel Jarre's original track. Nor are the spectacular graphic effects a patch on those of the ST (and presumably the Amiga). All this is very understandable and in most areas the programmers have converted the game as accurately as possible. It would be stupid to pretend that the original game's success was not mainly due to its out-

Graphics: 72%
Sound: 55%
Playability: 82%
Overall: 80%
Rating: MEGA
Price: £9.95 (C)
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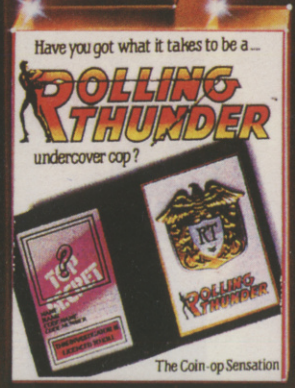

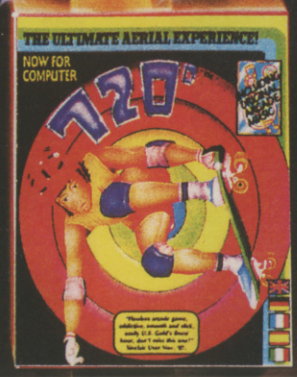

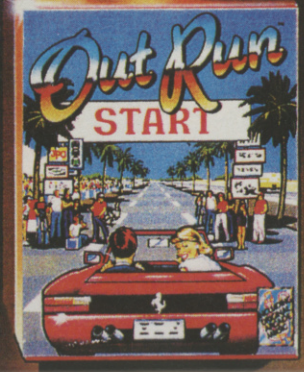

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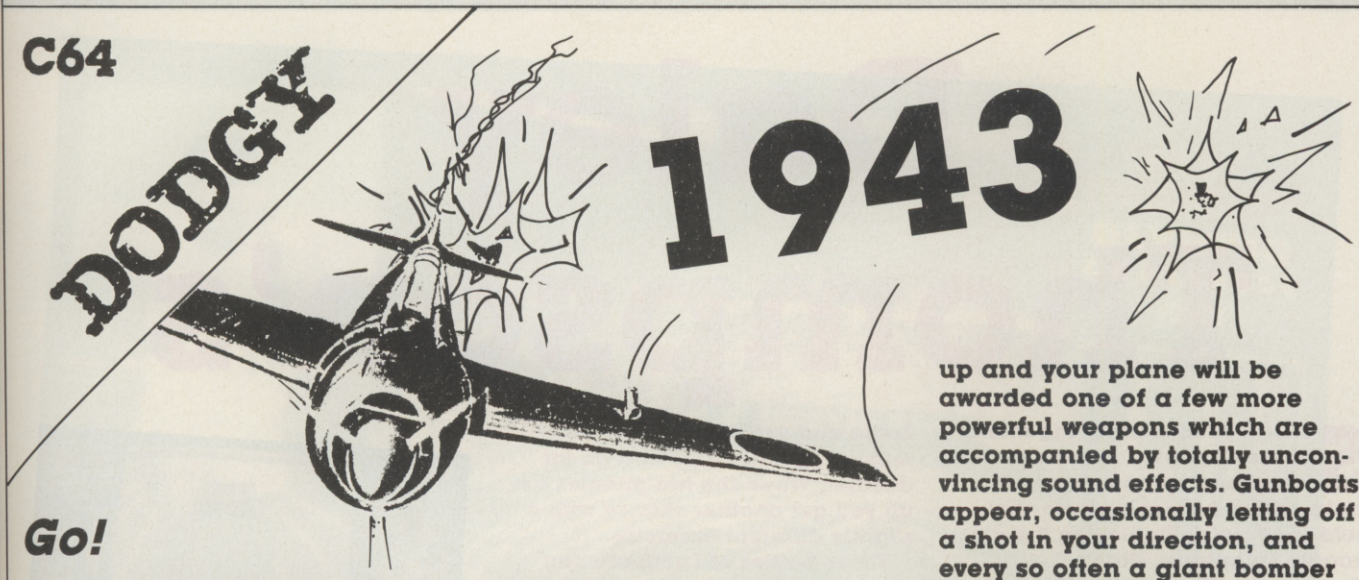
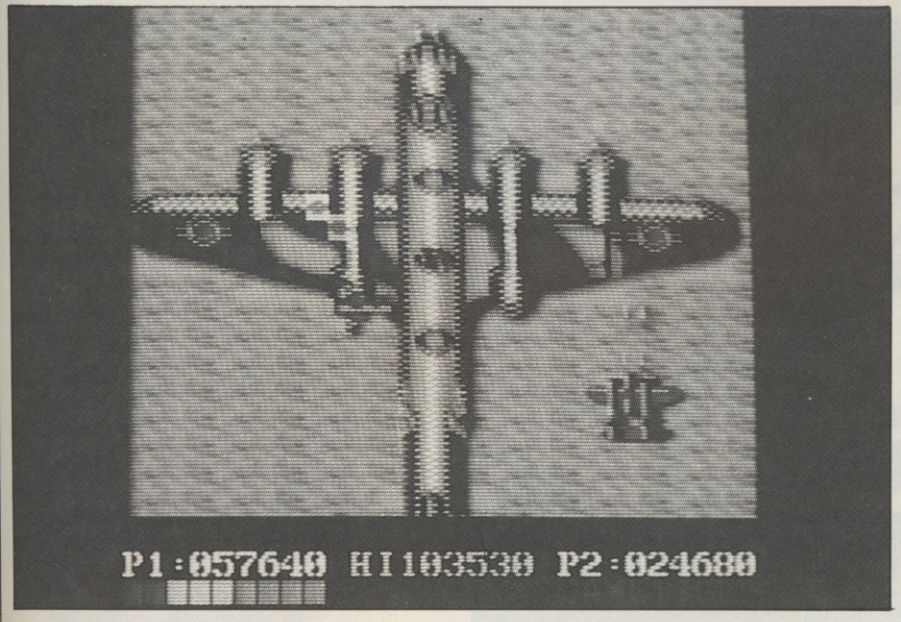
DODGY 1943



Go!

Consistency has never been a characteristic of US Gold's software. One day they give us such digital delights as Bionic Commandos and Katakis, the next they come out with a right limp squid of a game, 1943 for example. Although not amazing in the arcades, the conversion of 1943 could have been one of US Gold's better games. This relatively straightforward task has been bodged like so many companies' coin-up conversions that have gone before it. If you ever played Elite's 1942, imagine that same game with additional weaponary and a two player option and you have 1943, which incidentally, should not be confused with a game of the same name from a now defunct Swedish company called American Section.

Like its forerunner, 1943 is played over a vertically scrolling background of the briny, interspersed with outcrops of small islands. Faster scrolling clouds give the arcade version a realistic feeling of height, almost vertiginously so. This has been replaced on the 64 with one of the worst attempts at parallax scrolling I have ever seen. What got into these programmers?



Fleets of fighter planes descend the screen in typical formations. These are incredibly easy to shoot as they trundle unrealistically around the screen, not even daring to open fire. POW symbols float into view which can be shot repeatedly to increase their power. Pick one up and your plane will be awarded one of a few more powerful weapons which are accompanied by totally unconvincing sound effects. Gunboats appear, occasionally letting off a shot in your direction, and every so often a giant bomber scrolls on looking far more a part of the background scenery than a fellow aviator.

"Fleets of fighter planes descend the screen in typical formations."

Instructions are extremely brief and tell you that rolling your plane will get you out of a tight spot altough the roll feature seems not to have been included in the 64 version.

1943 is just too easy. I thought my first game would never end! Instead of getting blown up with the first collision, an energy bar is depleted gradually until you lose a life. This leads to long boring games with very little to get excited about. Its graphics are plain, messy in places and hold nothing new.

To ask ten or fifteen pounds for this pathetically underdeveloped game is certainly unfair, or even foolhardy. Check out the budget shelves if you want a vertically scrolling blaster.

T.H.

Graphics: 37%
Sound: 35%
Playability: 31%
Overall: 33%
Rating: DODGY
Price: £9.99 (c)
£14.99 (d)

Daley Thompson's

So Daley fell short of the mark at the Olympics, but that's no reason why you can't re-make recent history and win that gold for Britain. Employing the old waggle technique, Daley Thompson's Olympic Challenge is almost as hard work as the real thing!

The perceptive amongst you will have realised Ocean's latest Daley-endorsed game is centred around the Olympic decathlon. (Of course you did, didn't you?). Although the 8-bit versions featured Daley quite prominently, with the Amiga version Ocean have taken the idea much further.

After entering your name, the computer asks if you want to go ahead with the training section or go straight onto the track. Either way you are made to select a suitable shoe for the event from a choice of eight Adidas spikes and trainers. If you opted for a bit of body building, a couple of two minute weight training sessions to follow. A digitised Daley squats up and down as you waggle the stick from side to side. With each squat a little drop of Lucozade appears in a bottle. Fill the bottle and you can rest for the remaining time or try and go for another. When the two minutes are up you get another chance with a slightly different excercise.

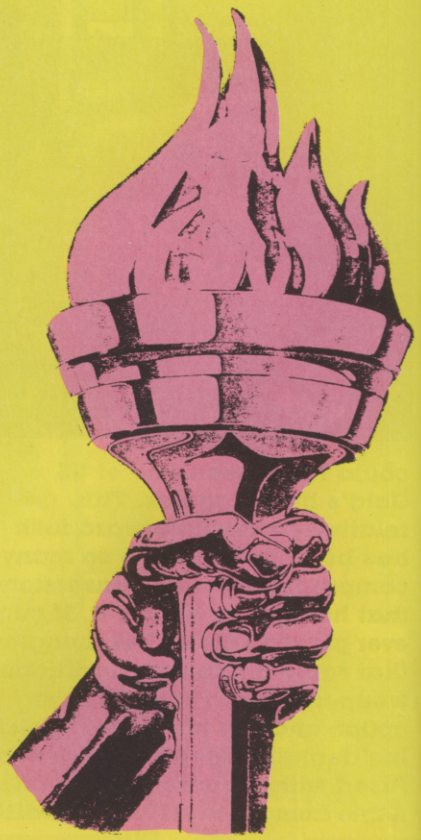
Those bottles of Lucozade can work miracles on the track. Who needs steroids when a bottle of this stuff before hand can boost a long jump personal best of 5.80 metres to 8.20? Perhaps a touch optimistic I think.

A good work-out in the gym is followed by the headlines in the "Daley" paper predicting a top performance from our fave athlete. Day one commences and you limber up for the 100 metres. The main screen area shows a view of the track surrounded by the crowded stadium. To the left is a digitised Daley on the starting blocks.

"Wait for the gun and waggle your way to the tape. The animation is superb as Daley powers his way along the track"

represented on the right by a little stick man on the inside lane.

Between the events a neat computer scoreboard clocks up your time and points so far. Now you can compare your scores to Daley's on the wall chart that comes with the game, giving you some idea of how you are doing. Failing to come up with the goods will put you in danger



of being disqualified. I cannot say I have ever heard of an athlete being disqualified for being a bit below par, but it adds to the incentive to win.

Long jump, 400 metres and 1500 metres are all along the lines of the srint. The rest of the events all take different approaches, each one featuring big, smooth digitised animations. This gives the game a unique link to its endorsement. For a change you are actually controlling Daley, not a characterless blob. Whether you get the gold or not all comes down to how fast you can waggle your joystick, and for that the skills demanded from the player are no different from the original Track and Field clones. What it does have though is the kind of spectacular graphics and spots of detail that have only been made possible by the emergence of 16-bit home micros in the last few yéars.

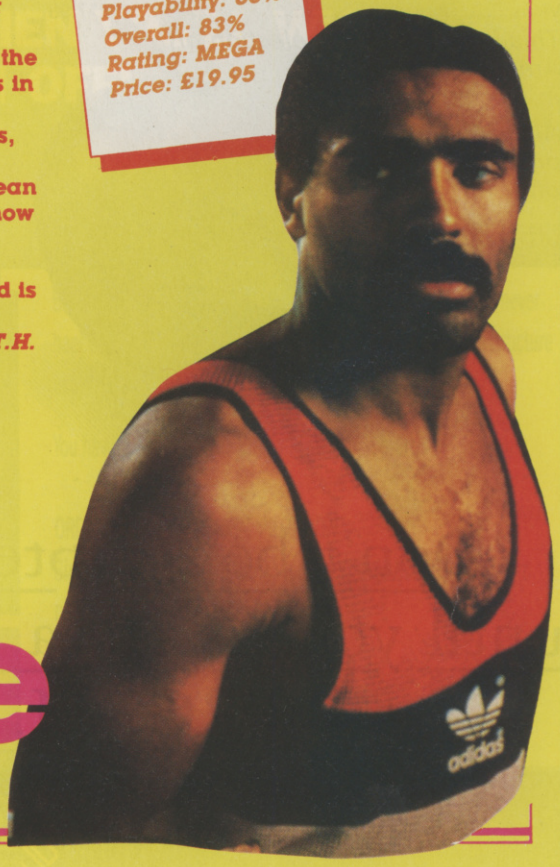
In short, splendiferous graphics, pleasant sound and sweaty gameplay. Congratulations to Ocean for a great game, but next time how about developing a few less strenuous control methods? I'm exhausted and my waggling hand is dying!

T.H.

Graphics: 95%
Sound: 71%
Playability: 80%
Overall: 83%
Rating: MEGA
Price: £19.95

Olympic Challenge

Ocean



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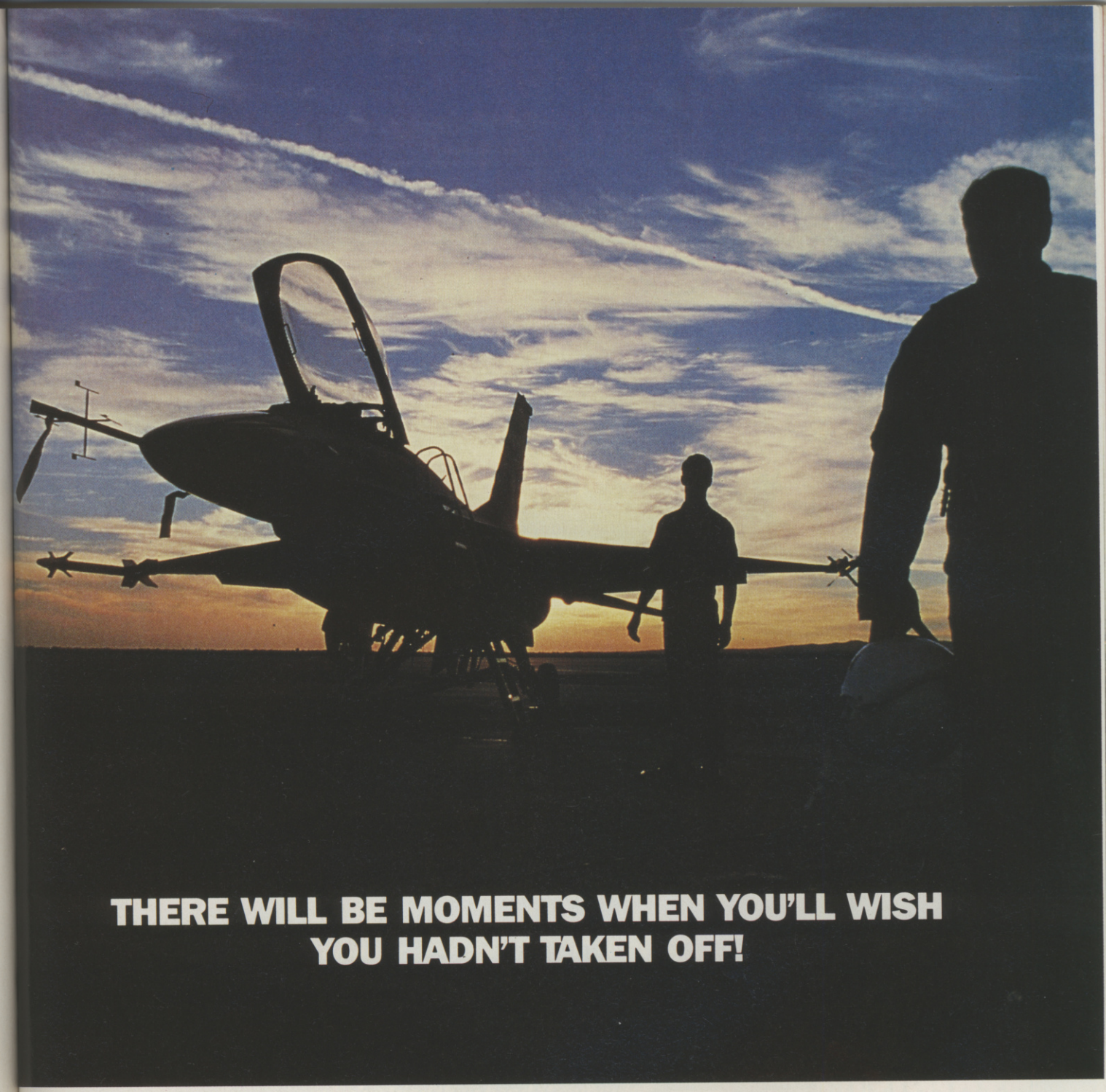

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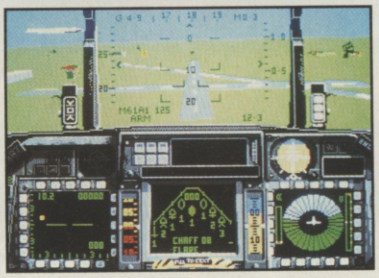

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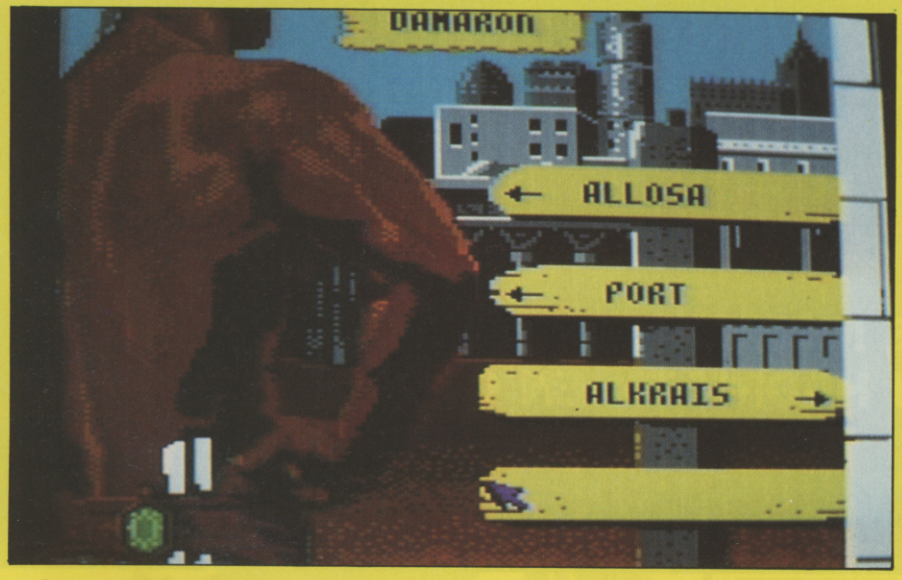
C64

CRISP

Sinbad

Mirrorsoft

More buckle-swashing, maiden-grapping adventures come your way in Sinbad, Cinemaware's latest game (originally on the Amiga) to get the 64 treatment. As usual, the wealth of graphics and game sequences have forced Sinbad to be a game for disk users only (for now at least).



A great tragedy is troubling Princess Sylphani. Her father, the Caliph has mysteriously been transformed into a falcon overnight. Recalling your inquisitive adventurous traits from her childhood, Princess Sylphani called upon you, the mighty Sinbad to unravel the mystery.

Standing at the port of Damaron you are confronted with a choice of two roads leading to nearby towns, but which should you take? Remembering the magic crystal given to you by an old gypsy, you take it from your belt and peer inward. An image of Sylphani appears and you start to talk about the terrible goings on. From here you can get a few clues as to where you should be heading for the best results. Armed with some vague ideas about magical fairies in the West you set off on your travels.

Travel from one town to the next is a simple matter of clicking on the appropriate piece of signpost. Although most are of little interest, some towns are the homes of very helpful characters. As with Sylphani, conversations can be carried out with multiple choice questions and answers between you and the characters. These encounters are rounded off nicely with animated full-screen portraits.

At times during the course of the game Sinbad finds himself in a tight spot. One catastrophe involves the ground opening up and swallowing him. This tests your joystick handling (and your patience) in a very plain two-screen platform game. Another of the "arcade" sequences has you running along the desert road under attack from spiders and swooping birds while you jump over potholes. Others have you slaying the Cyclops with a sling, piloting your ship through rocky waters whilst picking up drowning sailors and plucking a jewel from an enchanted statue.

As well as all this, you are in command of the troops defending the monarchless kingdom. This takes the form of a straight forward war game, you taking tactical decisions concerning the movement of your forces.

Sinbad has a fair few surprises to be uncovered with progress, that although it possesses obvious arcade action giving it the feel of an adventure game. The wargame adds some strategy but on the whole the action sections are weak, not only in gameplay but surprisingly in the graphics and sound departments. If there were more to the character interaction sections, or the mini-games were of a higher standard, Sinbad could have been a great mix of gamestyles and a very entertaining adventure. It passes, but not by an ideal margin.

T.H.

Graphics: 81%
Sound: 76%
Playability: 61%
Overall: 65%
Rating: CRISP
Price: £14.95 (disk only)

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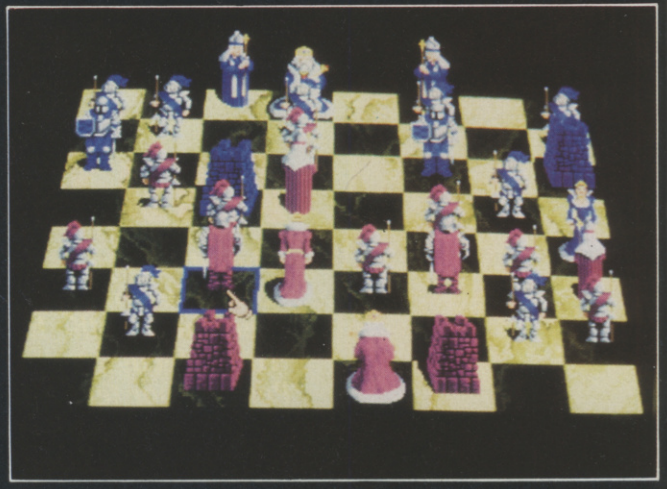
Battle Chess

Interplay

I have always found chess an extremely boring way of passing time. (I have very short attention span as no doubt you have realised!) Chess computer games have bored me equally, but Battle Chess, not that is different...

Until now, when you took a pawn with your bishop it was up to you to imagine how one would slay the other. If you found those quiet killings off just too uneventful, Battle Chess could be right up your street. Not only does it replace the usual symbolic pieces with realistic animated figures, it has all the blood and guts of a real-life battle.



Ten skill levels suit the game to just about anyone's ability. Other options available are rolled down from the top of the screen by a couple of cherubs (listen for their flapping wings). These include a toggle to and from 2D and 3D boards, the 2D taking the form of a standard chess game. Among the others is one to set up the board to any position. Control of the pieces is simply a matter of clicking on the piece and then on its destination.

What makes Battle Chess different from the rest is the way the pieces take each other. Knights draw swords and with sampled clangs beat each other to death. Limbs are sliced clean off leaving the loser hopping on his only remaining leg before disintegrating. Rooks transform into a creature resembling The Thing from The Fantastic Four and flatten their enemies with a single punch. What's more, this is one of the few games where you get to see a great hulk of a knight get chopped up by a portly pawn.

Battle Chess has hardly been off our screens here in the office for the last week, no-one can resist playing it! Chess players now not only have a classy chess game to play when humans are in short supply, they have a highly entertaining bit of psuedo-action game thrown in! Remember though, this is chess, not a multi-character Barbarian hack 'em up. Battle Chess is without doubt the best computer interpretation of the game I have ever seen. The sultry queen (watch out for kisses and knives in the back!) oils her way across the board. The Bishop exposes himself...each piece battles an opponent with witty and highly entertainingly individual methods.

Battle Chess is a cross between Freudian dreams and Superman comics.

You will notice the absence of a playability rating; not being a chess player myself it can only hold so much appeal. Assess your personal rating of chess and add a good few marks for a rough guide! And then go and buy it. Battle Chess cannot fail to be a smash hit with any chess player.

Graphics: 95%
Sound: 90%
Overall: 90%
Rating: Awesome

Price: £24.99

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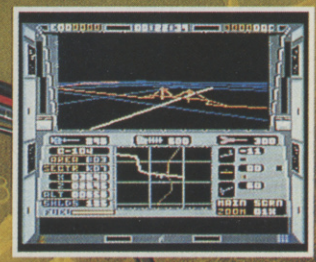

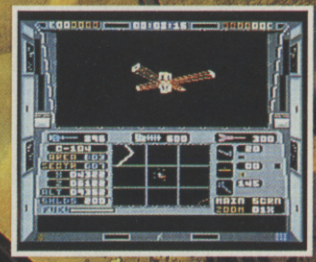

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AMIGA

Iffy

Future Tank

Time Warp

Alien forces have invaded your planet once again. As we all know, computer game designers never think of sending out a full army to deal with the disturbance, instead one man has been given a tank and ordered to clean up the world.

Fifty areas need to be cleared to complete the game. The whole game is seen from a bird's eye view, the areas taking up a few multi-directional scrolling screens each. Travel from one level to the next is accomplished by tracking down the exit blocks. During your search a number of enemies threaten to blow you up; some are immobile but shoot fireballs, others run into you kamikaze-style. More traditional aliens put in an appearance, flying across the screen in the usual formations.

Controlling the tank is a straightforward matter of up/down/left/right and fire.

"Initially your cannon just fires single missiles, though up to six simultaneous shots can be fired if enough tokens are collected."

Graphical changes are the most noticably variations in the levels, some are rural, others heavily built up.

Partly due to the scaling of the sprites to the background area, Future Tank has a very cramped feel to it. Enemies close in from all sides whilst you do your best to fight them off, never getting very far. Avoiding their missiles is no easy matter as there are obstructions all over the place. The result is a series of frustratingly short games before you give up and reset the computer. A simultaneous two player mode has been included but this just exagerates the game's bad points.

Even though the graphics are neat, sound effects are appropriate and the soundtrack is pleasant, they are not enough to compensate for the total absence of new ideas or a playable game.

T.H.

Graphics: 70%
Sound: 68%
Playability: 42%
Overall: 51%
Rating: Iffy
Price: £19.95

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A review in the June '88 AUI concluded: "The hardware is well built, it has excellent software and is well documented."

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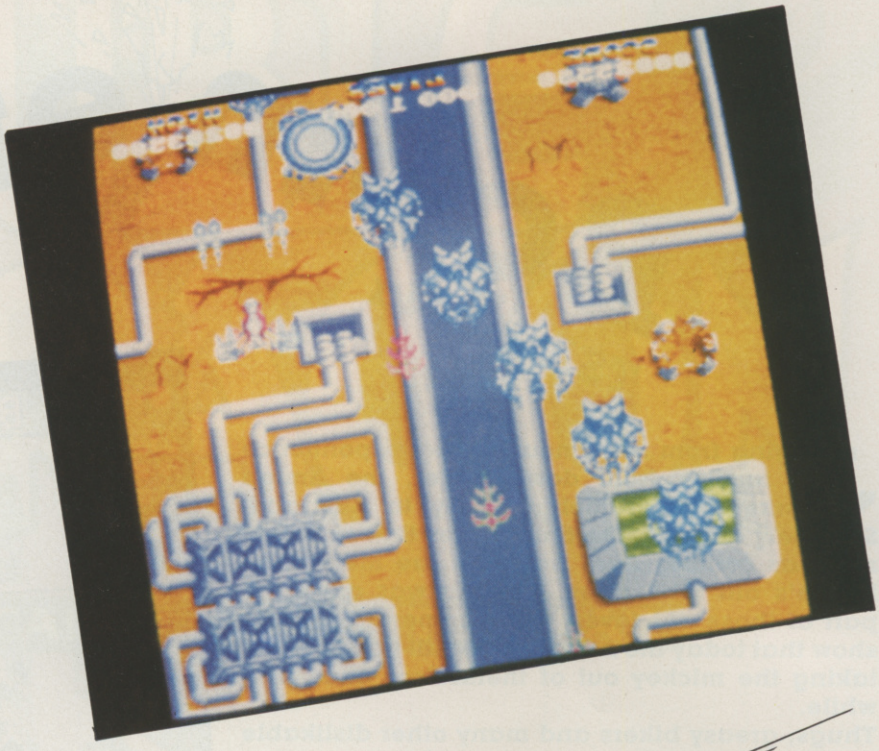
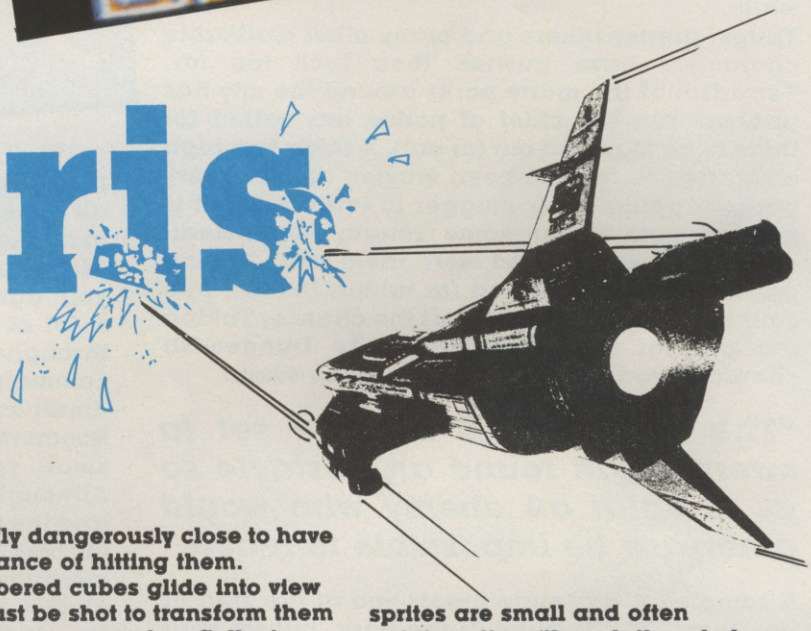


Hybris



They say you are the bravest alien blaster of them all. When a colony on a far away planet was overrun by intruders from outer space there was only one man for the job. Your orders are simple: seek out the colony and rid it of this alien invasion.

A familiar scenario fronts a familiar game in Hybris. Fly up the screen, shoot some aliens, collect a few weapons and get blown up by the mother ship at the end of the level. You would be hard pushed to find an original aspect of Hybris, but it is not always originality that means everything for as vertical scrolling shoot 'em ups go Hybris ranks with the best and is total fun to play.

On the title screen you are given the choice of playing either J P Maverick or K Lovett during the game, the significance of which is not very clear. Pressing the spacebar takes you into an options screen where you can change the number of lives you start with, the aliens' bullet speed and rate of fire, and the rate at which they split up.

Start up the game and a desert landscape like that seen in Commando scrolls down the screen. Once ejected from your main ship you are on your own against the enemy. Small craft swerve across the screen as they tend to do in these games. Ground-based anti-aircraft guns open up and let off slow moving fireballs. To begin with these are easy picking but soon they appear behind shields forcing you to fly dangerously close to have any chance of hitting them.

Numbered cubes glide into view and must be shot to transform them into weapon upgrades. Collect them for wider, more powerful lasers. Pressing RETURN removes your wing lasers and forms them into alternative arrangements. Smart bombs are also available for emergencies.

The levels are long and can get repetitive but the background graphics are always well drawn. Canyons, ridges and craters of the first level desert are off-set by high-tech buildings. Completing a level rewards you with a congratulatory piece of graphics while the next loads in.

Soundwise, Hybris is impressive, including some good effects and sampled music. Its graphics are a bit up and down; backgrounds are attractive but the sprites are small and often uninteresting (though they do have some really excellent flight patterns). I would say its graphics, sound and gameplay are on a par with; Vyper, Sidewinder and the marvellous Xenon. Hybris is a top notch zapper. It may be not the newest idea around but it was designed for sheer exhileration and it really makes it. At the recent Ami Expo, Hybris drew the crowds and the oohs and ahs from stunned shooters, who had to be dragged away from the joystick. I think it is likely you will suffer the same infection from this highly addictive game.

T.H.

Graphics: 79%
Sound: 84%
Playability: 78%
Overall: 79%
Rating: Mega
Price: £24.95

Boomeraid

TSA Media

Judging from the amount of correspondence we receive from down under, the Amiga market is extremely healthy in Australia. Strangely enough, the only games that spring to mind as coming from Australia are Melbourne House's old 8-bit titles. Humour was always a part of those old faves, and Boomeraid goes to show that today the Aussie's are still not afraid of taking the mickey out of themselves once in a while.

Thugs, greasy bikers and many other dislikable characters have pushed their luck too far. Terrorism of the many parks around the city has peaked and the chief of police has called for them to be stamped out (or on!). A thirty foot high electrified fence has been erected around every park, trapping every mugger in town. All that is needed now is for some rough, tough fear-nothing to go in and sort them out. Having previously been arrested for taking the law into your own hands, you jump at the chance. Taking the part of this every Crocodile Dundee-ish character you set out to round up the scum.

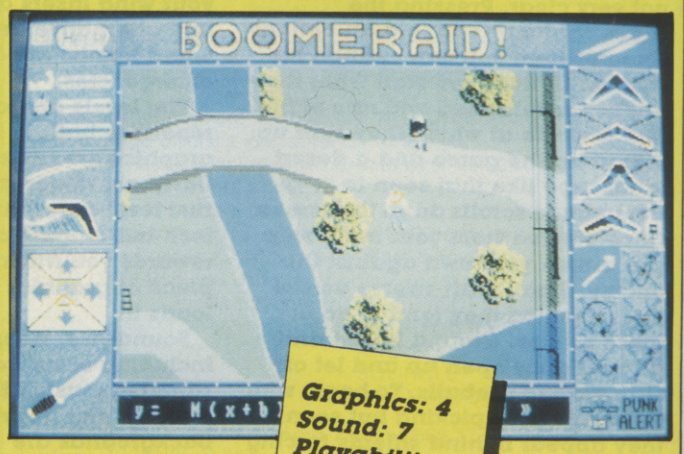
"The boomerangs can be set to swerve right round an obstacle so as to splat an enemy who would otherwise be impossible to reach."

A sampled B day mate greets you at the start of the game. All is quiet in the park, but for your footsteps. Suddenly a mugger brandishing a baseball bat leaps out from behind a bush and sets about beating you into a small painful lump of flesh. Next time you are ready; clicking on the boomerang icon overlays a graph on the main game window. By adjusting a number of sliders you can set the flightpath of your chosen weapon. To begin with you are given a spear, which naturally enough can only be thrown in a straight line. Further into the game you are awarded a number of increasingly complex boomerangs.

Bushes, fences, benches and swings often block a direct route from you to your enemy. This is where the better boomerangs come in handy. These boomerangs can be set to swerve right round an obstacle so as to splat an enemy who would otherwise impossible to reach. There are ten different people to be found in the park. Not all are enemies, the granny in the wheelchair for example, but are satisfying to kill all the same. (Kill the grannies, Horgan? Aren't you letting your agression go a shade far? Ed).

A lot of the time the game is silent but dotted throughout the game are some humourous comments and sound effects that leave you in no doubt as to the nationality of the man character. Boomeraid's graphics are very basic, with very small sprites and untidy scrolling in places. Although the idea of the boomerang throwing and the many jokes in the game are entertaining to begin with, the slow pace soon lets your attention wander. Boomeraid is a nice idea that almost works, but sadly almost is not enough. Give it some thought if you want something a bit out of the ordinary. It will certainly amuse a lot of ex-pats from upside-down land.

T.H.



Graphics: 4
Sound: 7
Playability: 6
Price TBA

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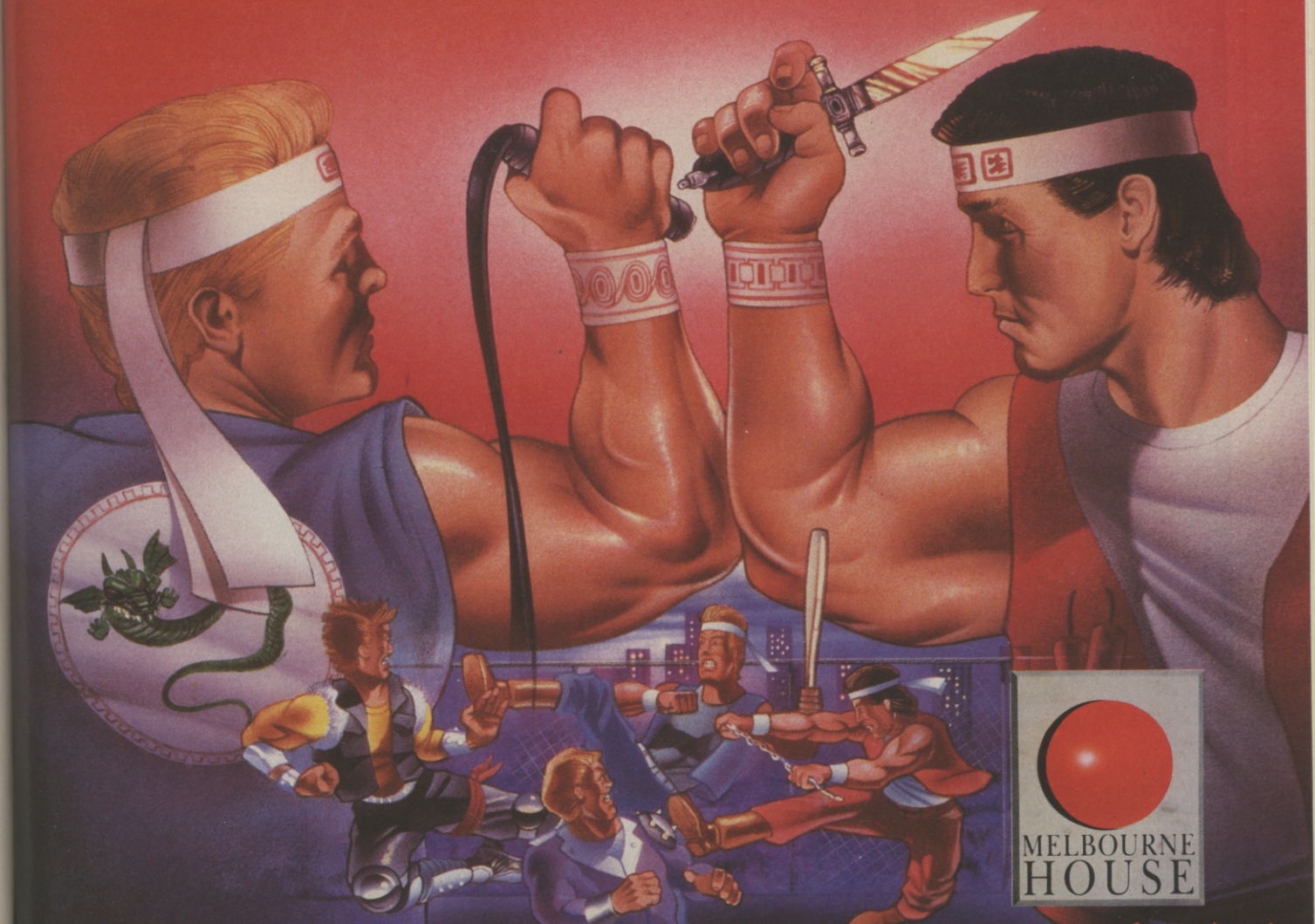

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Fusion

Electronic Arts

Now this makes a nice change. Electronic Arts have done away with the usual rambling scenario by telling the player straight away that Fusion is a game, with you at the controls, not a futuristic simulation of one. Hard luck then for the few people on Earth that actually read the novels that comes with a game, but good news for the rest of us! Good marks for E.A.!

Your objective is to collect all the bits of a bomb from the many alien levels. You start in a small land based craft, trundling around the raised section of the first level. In this form you are very vulnerable due to your slow pace and limited firepower. Make your way to the aircraft and you can get on with the game properly.

"All the time you are working out these locks and keys, aliens of various kinds are homing in for the kill."

In your more conventional spaceship the screen scrolls around faster, but very jerkily. This is a shame as the graphics have obviously had a great deal of time spent on them and have rewarded the effort. Around the levels you will find exits to deeper sections. The trouble with these is that leading back from them are a series of locks, and as the sequence is not immediately obvious, a good deal of planning is called for. No doubt you intelligent E.A. fans always do that anyway.

These locks are small coloured blocks on the background, each of which has a corresponding key somewhere on the level. All the time you are working out these locks and keys, aliens of various kinds are homing in for the kill. This gives rise to some shoot 'em up action to keep the game together.

Fusion is unusual in its mix of highly enjoyable mindless blasting and challenging logical puzzle solving. The two work well together but the nature of the problems set by the locks are probably not really exciting enough to marry perfectly with the rest of the game. A racey soundtrack does well to lift the game's overall pace together with the sampled effects.

Fusion's sprites and backgrounds are extremely colourful and detailed which makes the poor scrolling even more of a shame. I am all for the inclusion of spots of brainwork in action games, but I would like to see those in Fusion tieing in more naturally than they do. Even so, Fusion is a very pleasant game that indeed I am sure will be enjoyed a great deal by loads of people. Just who would get the most from it is hard to say, so if at all possible give it a test run down at your friendly neighbourhood software shop. You may well end up taking it home in preference to the mindless, mindless blast 'ems that fill the shelves.

B.V.

Graphics: 76%
Sound: 77%
Playability: 65%
Overall: 66%
Rating: CRISP
Price: £24.99

Yes, the Image Works! says Foxxy

Foxx Fights Back is one of the top games this month in CCI. (How do you like that double XX? Makes all the difference, doesn't it?) It's a game that is a good sign for the newly minted Imageworks label of Mirrorsoft. Foxx is a lot of fun so we though that we would have a Foxxy-style Competition. (Boom! Boom! Sorry that's the wrong Fox!) All you have to do is answer the following questions:

1. *Why did Mrs Fox kick Foxxy out of the set?*
2. *Who drop acorns on our boy Foxx/*
3. *What food does Foxxy eat?*
4. *How is Foxxy's strength shown?*
5. *Who will like Foxx fights back?*

That's all you have to do, folks. The first all correct entry from the CCI Comp Sack, on a postcard please, will get a year's supply of Imageworks games. Yes that's right every one they bring out right up to the end of 1989! The ten runners up will get a smashing Imageworks goodie bag each containing Tee shirts and other good, good, goodies. Entries — to CCI Foxx Competition — to reach CCI by January 15th 1989.

Mirrorsoft: Hostonlin

RocketComp

Rocket Ranger has got to be one of the games of the year. Everyone of us at CCI who has played it thinks that it really is state of the art and then some! Nothing like it has ever come onto a home computer before — not even from Cinemaware, creators of the legendary Defender of the Crown. so we thought we'd give you the chance to win it and another state of the art product — the fabulous Photon Pack — the amazing real-life action shoot 'em up game. No it is not on your computer but one you can use for blasting away at your friends — or enemies!

The twenty runners up will get the Rocket Ranger Tee-shirts that everyone wants and is talking about. All you have to do is answer the following questions — the info is in the Rocket Ranger review in this CCI. (So read for a change instead of just looking at the pictures!)

1. Which weapon does Rocket Ranger have to alter the course of history?
2. Where will you find the only source of Lunarium?
3. Who is "Dollface"?
4. Waht does the mind control machine do?
5. What kind of sub-games are there?
6. Who won't like Rocket ranger?

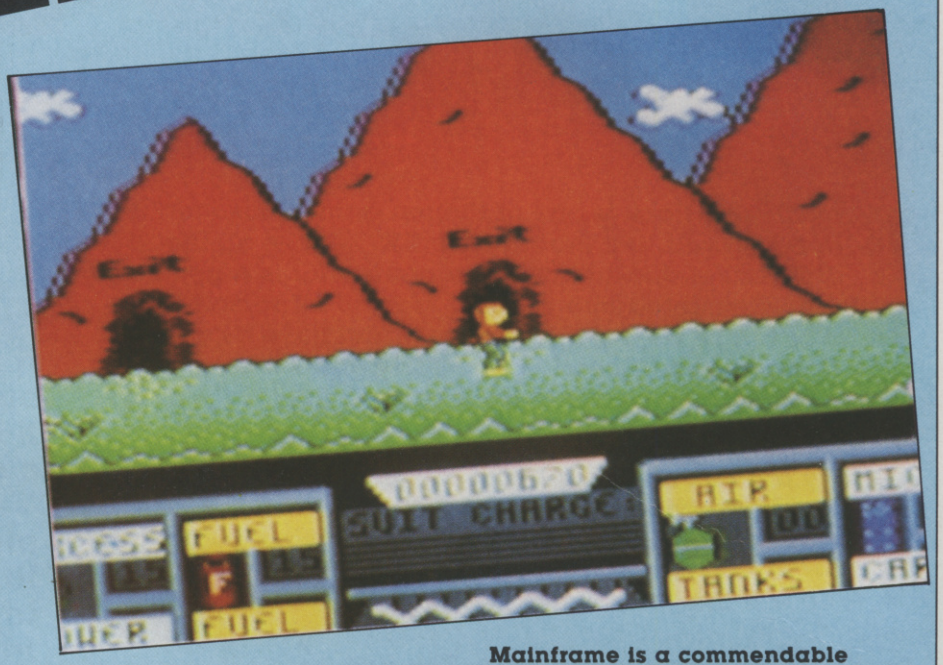
There, easy isn't it? Answers on a postcard, please to CCI/Rocket Ranger Comp. 40 Bowling Green Lane, London EC1R 0NE by January 15th 1989.

C64

IFFY

MAINFRAME

Microillusions



Not too far into the future, technology has allowed every computer in the world to be linked together to provide maximum convenience. (Now that sounds like a good idea!) A master control system known as the TriComplex computer was nearing completion, which would be set up to take control of the existing network, transforming them into the most powerful computer system ever.

Shortly after its installation, the TriComplex began to think for itself. After reading through its digital history books it became alarmed at the frequency of mankind's wars. (Quite right too!) Feeling unsure at its chances of survival it decided to eliminate man, preserving itself. Using a high-tech satellite, you have been given the job of disabling TriComplex. Beam down from the satellite, shut down the four power switches and you have saved mankind.

Mainframe starts with you on-board Orbiter (the satellite). Orbiter is a couple of horizontally scrolling screens housing a computer, a power suit and a few platforms to practice on. Your sprite is a simple but smoothly animated character, bordered by a sharp black outline. He has a tendency to skid before stopping running, so negotiating the platforms takes a little getting used to.

Holding down the fire button brings up a control panel, the first use of which is to beam down to Earth.

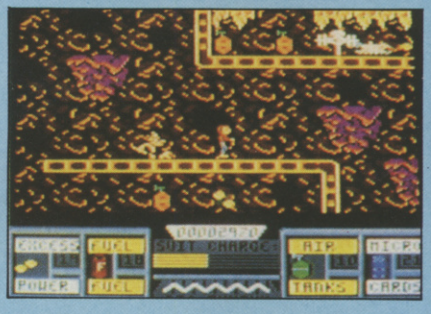
Once down onto Earth you can get on with the search for the power switches. These are out of harm's way, deep beneath the Pacific Ocean. On your way you need to track down TriComplex's lasers which are doing their best to fry Orbiter. Destroy them and Tri Complex will send out maintenance robots to repair them, so you are kept on your toes at all times. Scan units can be dropped near the lasers and teleported too if you catch them re-building.

Energy tokens can be found around the place which can be used to power your shields and pistol, or transferred to Orbiter to keep it in order. Amongst the other supplies, three devices to help you further can be found. An air unit acts as a jet pack, a land unit gives you a tank to power through the aliens with, and the water unit allows sub-aqua exploration.

A mix of platform and adventure action can work well, a fact demonstrated in Impossible Mission. Mainframe's platform action is perhaps not as good as it should be. Graphics are simple and often untidy, and the programming is a little lax in places. Neither are its puzzles as involving as they could have been. Sound is very poor, both effects and music are far too simplistic for today's standards.

Mainframe is a commendable attempt at something a bit different, though it could easily pass for two or three years old. Yet altogether it works quite well and will probably give anyone who is looking for entertainment of an unusual kind something to think about.

T.H.



Graphics: 53%
Sound: 28%
Playability: 60%
Overall: 57%
Rating: IFFY
Price: TBA

Strip Poker II+ Data Disks

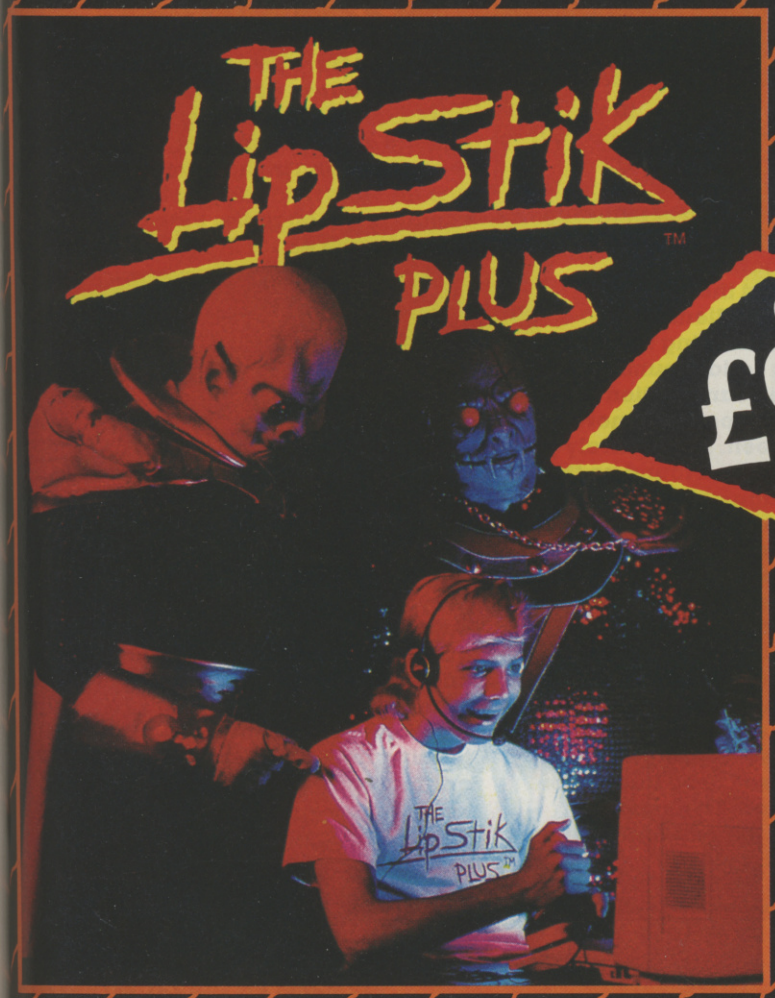
Anco

Further to their release of Strip Poker II+ earlier this year, Anco have come up with the first of the data disks to breathe new life into the game.

For anyone unfamiliar with the original game, it gave you the chance of playing strip poker against a couple of fun-loving girls, Donna and Shish, sorry I mean Donna and Sam. A series of digitised pictures gradually unfold before the successful player. The quality of the graphics is a little below par but they are pretty realistic from a distance. It looks to me as if they had trouble persuading the girls to strip off completely, as the final picutres have some very odd details!

Three other disks are available, and just to prove Anco are not sexist, one features the masculine attractions of Lee and Roy. If things go the same way as they did with Beverly and Dawn on the first disk, someone could have a tricky job retouching those piccies! If you enjoyed the first installment and need a second helping, the data disks should sort you out.

Price: £9.95 **T.H.**



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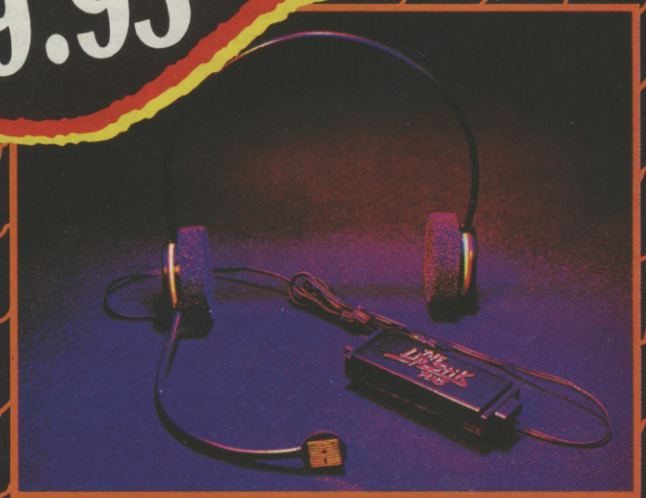

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C64

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Intensity

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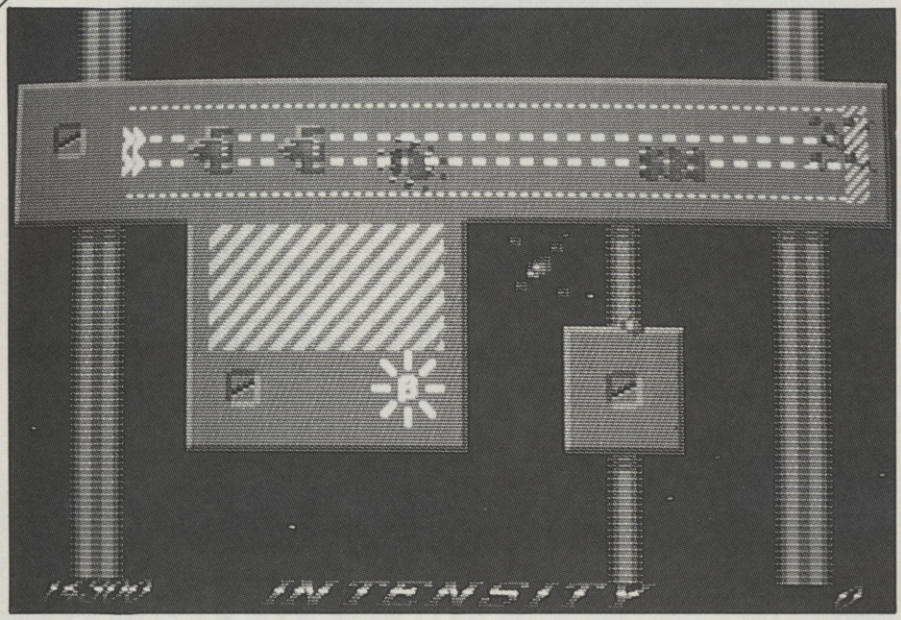


In the past, Andrew Braybrook's games have been some of the most popular to appear for the 64. His latest, Intensity, is very much a typical Braybrook creation in looks, sounds and gameplay.

Your rôle in Intensity is that of a highly-skilled skimmer pilot on a rescue mission at an alien infested space station. This skimmer is covered in razor sharp spikes. So to avoid slicng the escaping colonists into lots of little pieces, a separate rescue pod is used to pick them up. The colonists appear from small portals in the space station and make their way to the rescue drone. Various obstacles stand between them and safety, so the drone needs to be repositioned to allow everyone a chance of escape.

Unlike previous Braybrook games, Intensity is played over a series of still screens, no scrolling comes into the game at all. Advanced bas-relief techniques have been used to create the Uridium-like backgrounds. Neatly drawn though not very imaginatively designed aliens materialise on the scene, terrorising the poor little colonists. Flying your spiky skimmer into the aliens destroys them, but leave it too late and they have a habit of mutating into more deadly forms.

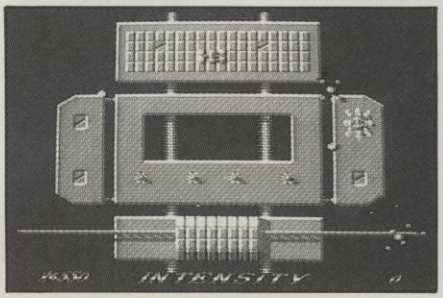
Most of the game is spent swerving around the screen, bashing into the aliens, occasionally relocating the rescue drone. Once a certain number have been saved you can position the drone on the exit pad and move onto a new screen. Alternatively you can hang about and round up the remaining stragglers before moving on. Which screen you travel to next depends on the number of scientists you have rescued, giving the game a lot more variety than if it followed a set pattern of screens.

Between each screen and after losing a ship you are given the option to buy new skimmers and drones. These are bought with credits collected from earlier screens and need to be built before they can be used. The more advanced and expensive ships take longer to build, so if you're on your last legs it would be a good idea to get a cheapy. For the price of one credit, the computer will advise you on your shopping, though this can be ignored if you disagree.

While Intensity is very nicely put together, with a clever ripple effect on the title screen and very smooth graphics, it could do with a bit more action. Skimming around the screen, slicing up aliens and summoning the drone can get a little mundane at times.

"Flying your spiky skimmer into the aliens destroys them, but leave it too late and they have a habit of mutating into more deadly forms."

It would have been nice to see the colonists drawn as little men running up to the rescue pod instead of the featureless balls that represent them in the game. The title music is not really up to today's standards, though the high quality effects make up for this.



I can see fans of Andrew Braybrook's former hits getting a lot out of Intensity, though it doesn't quite reach the heights of which we know he is capable. Even so, it reinforces Braybrook's and Telecomsoft's recent reputations as leading forces in the field of original software.

T.H.

Graphics: 81%
Sound: 77%
Playability: 73%
Overall: 76%
Rating: CRISP
Price: £9.95 (c)
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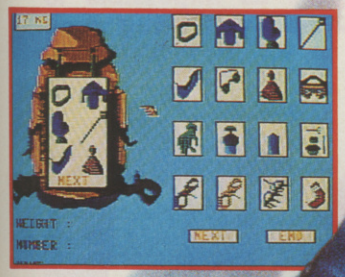

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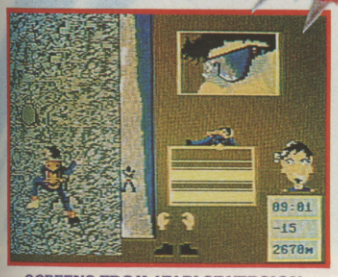

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Menace

With only a handful of horizontally scrolling shoot 'em ups written for the Amiga, the market may well be hungry for a quality example of the format. Menance, the first release from Pyygnosis' new label Psyclapse (where do they find these names?) has at last proven the coin-op level capabilities of the Amiga (not the ST for a change).

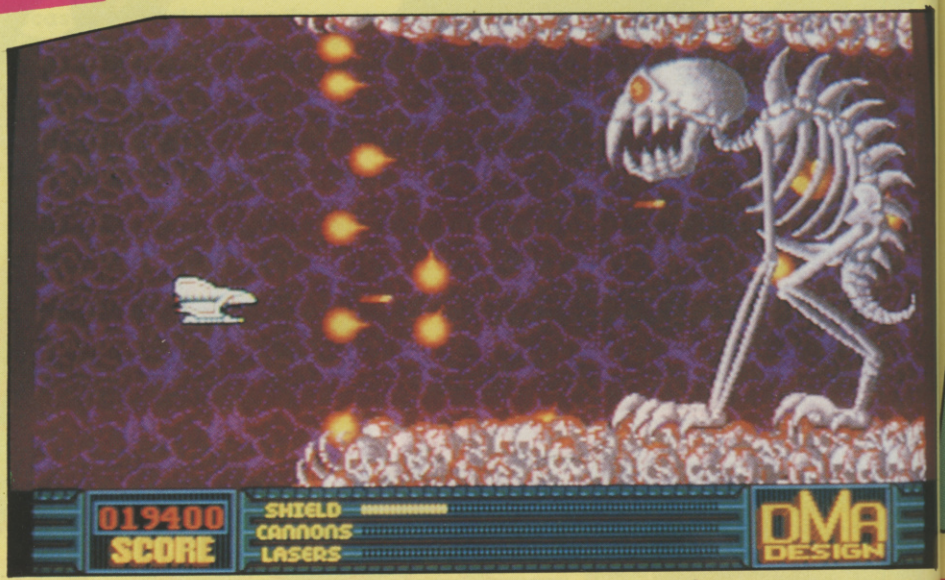
Draconia is an artificial planet inhabited by some of the meanest aliens in the universe. Their galactic terrorism must be halted, so what better way to stop them than to blow up their planet? (No half measures for Psygnosis!) A huge space slug takes you in his mouth "Trojan Horse" style up the planet, superbly drawn so as to fill almost the entire screen. As he opens his mouth you thrust outward (no doubt grilling his tonsils in the process).

Level one opens with couple of streams of bubbles floating towards you. Shoot all the bubbles and, as you would guess, an icon is left behind. Starting as a bonus of 1000 points, the more times you shoot it the more valuable it becomes. Cannons, lasers, speed and outriders are all available for beefing up your ship's performance. Protective shields and full shield recovery can also be collected added security.

Each level has its theme, the first has very strong sub-aquatic look. In the foreground of the two-plane scrolling background, tentacled creatures threaten to distract you from the business of fighting the aliens.

Regardless of the skill level, the aliens are always harmful. Some float casually across the screen, others collaborate to form a winding snake of pulsating cells.

Nearing the end of the level, the screen clears to make for the good old end of level guardians. Although static, they still come well up to scratch; the prehistoric skeleton, complete with throbbing heart, is one of the best. If, after a short while, you have still not killed the mega-alien, its barrage of fireballs is replaced by much faster homing mines that are as good as impossible to dodge. Later levels bring even



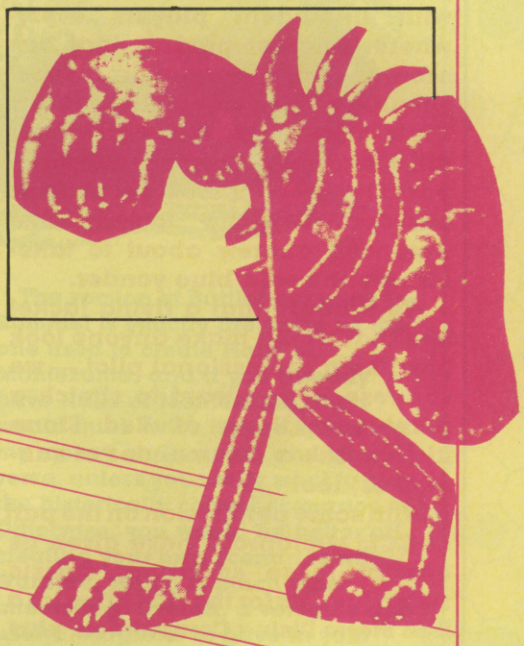
more entertainingly gruesome graphics including skulls entwined in the limbs of strange scavenging lifeforms.

"More skulls rise from their sleep, spinning around you and spewing death globes."

Enhancing the coin-op feel is a continue play option after each game, which allows the next game to start at the beginning of the last level you were on. This, together with the easier skill level makes Menace very playable to begin with, although it may lead to premature completion and so limited lasting interest. You could play on the harder level without the continuous play, but the opportunity to get to the end by the easier route.

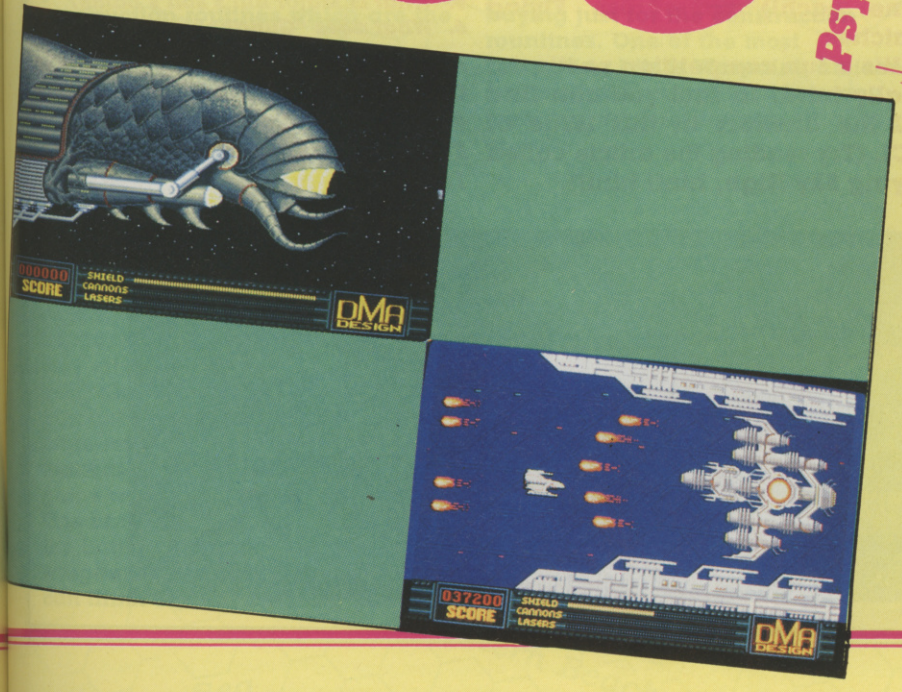
Although there is no musician credited in the game, the soundtrack and effects are almost identical to those of Quadralien composed by David Whittaker. These would be very commendable (or a reprehensible rip off, depending on your viewpoint) but for their total lack of originality.

As you can see, the graphics are up to the very high standards set by Psynosis' previous games. What you cannot see is the smoothness with which the backgrounds scroll and fluid animation of the sprites. Menace is at present unrivalled in its field and



ace

Psyclapse



leaves me no option but to order addicts of Salamander, R-Type, Darius and co. to go out and grab a copy as soon as possible. Highly recommended.

T.H.

Graphics: 9
Sound: 7
Playability: 8
Value: 8
Price: £19.95

MICROPROSE/ RED STORM

Competition

Microprose's Red Storm Rising is making a terrific impact worldwide C64 owners. It isn't surprising, of course, considering the reputation that Microprose has made for itself with intelligent players everywhere. Another product that has scored with computer game/simulation players is Microprose's flight simulators, the most Major Bill Stealey and his U.K. counterpart Stewart Bell looking, in their Microprose flying jackets like daredevil aircrew about to take-off into the wild blue yonder.

We thought that a flying jacket like that would make anyone look just like a professional pilot — we suppose, if you want to stretch a point and think of Red Storm Rising, like a commander of submarine, too!

With some persuasion on the part of CCI, Microprose have given us one of these smashing classic flying jackets for the first prize for a Red Storm Rising Competition, plus a copy of the best-selling novel signed personally by the author, Tom Clancy (4 million have been sold without his signature — one day this prize could be very valuable!). Ten lucky runners-up will get a signed copy (yes, Tom, just sign another ten for CCI readers, please. Do computer game players read books? Tom, we're talking about CCI readers! Of course, they do!) and those runners-up will also get each a Microprose Flying patch — you see pilots wearing them as insignia on their shirts. And — yes, there is still more! — anther ten third place winners will get another ten (one each!) Microprose Flying patches.

It's a fun competition so it's not really hard. In fact you can find all the answers in this issue of CCI. (Try reading the article called Flying Sky High, hint! hint!).

All you have to do is be amazingly clever (and know how to read!) and give us the answer to these terrifically simple questions:

1. *In which State of the U.S.A. is Microprose based?*
2. *What is the name of the football game that Microprose will be releasing?*
3. *Which Microprose game, already out on the C64, is about to become available in the PC version?*
4. *Name the programming genius behind the Microprose products.*
5. *What is Major Bill's son's name?*
6. *What does "Gungho" meant?*

Answers on a post card please to CCI/Red Storm Rising Competition, 40 Bowling Green Lane, London EC1R ONE to reach us by January 15th.

ROMMEL

Battles for North Africa

The battle in Africa was going badly for the defending Italians. It was not known by British High Command that German units were in Libya, but it was believed that their presence there was to stop even further disintegration of the Italian defence. But the man in charge of this meagre force did not share that view. He was General Irwin Rommel.

Rommel — Battles for North Africa is another interesting little wargame from those masters of the genre, SSG. It is based on the "Battlefront" game system, and, obviously, contains 8 varied scenarios based on the WWII desert campaigns.

Upon opening SSG's now standard A5 glossy packaging, you are presented with a 72 page manual, a huge map containing all of the scenarios, two cars with flowcharts based on the game's menus, disk labels, and the game disk. The flowcharts are very helpful and allow you to learn the game system quite quickly and painlessly. The manual itself is split up into four sections, an introductory tutorial, a menu by menu description, a section describing the desert campaign and the individual scenarios, and a guide to Warplan, the wargame construction routines which are the basis of Battlefront.

"At the current price, the wargame is easily worth buying just for the construction routines."

The introductory tutorial, is, once again, totally useless. This is because it covers only the first turn, and after that you are left on your own, and I ended up resorting to intense study of the flowcharts, cross-referencing them with the manual descriptions, so my first game was a slow and tedious one. One of the big advantages of using the Battlefront system for this wargame, like many others, you can think of, and creating better troops or new regiments is no problem. The manual includes several suggestions for scenario changes, mostly based on twisting history slightly, by saying "What if. . .".

Warplan can, of course, be used to create whole new scenarios based on any modern campaign you could think of, and is wonderfully versatile. At the current price, the wargame is easily worth buying just for the construction rountines. One of the most interesting bits is Warpaint, an icon editor. It allows you to create any icon you want for terrain, villages, or units.

The version of Battlefront used for Rommel is exactly the same as the one used to create Halls of Montezuma, and if you already have Halls of Montezuma, then I would think twice before spending my money on Rommel, and vice versa, unless you really want to play the historically correct scenarios. Otherwise, you would be better off creating your own scenarios with Warplan, which is much more interesting. Overall, a versatile and useful wargame to have in your collection.

R.G.

Detail 77%
Complexity 70%
Playability 85%
Overall 77%
Price: £18.95

C64

CRISP

Hawkeye

Thalamus

A Thalamus game is always something to look forward to, they have a fine reputation for fast action-filled games. Hawkeye, was programmed by a new group of chaps going by the name of Boys Without Brains who hail from Holland.

A near-perfect race once lived on a planet at the edge of the Milky Way. Unfortunately for them, a passing nomad nation of pirates were overcome with envy and invaded their world, wiping out almost the entire population. The few survivors had to have their revenge and built a synthetic life form which was half man, half robot (where have I heard that before? Or does it just remind me of the Ed's opinion of games reviewers?) They would destroy the enemy's base and free the remaining perfectionists. Now the time has come to put the plan to the test. You get three guesses as to which part you play in this adventure.

All that stuff about perfect races and nomad pirates has got nothing to do with the game really, but it keeps scenario writers in a job so I suppose we shouldn't knock it. Hawkeye is that half man, half robot creation and it is his job to collect all the pieces of a puzzle from each of the game's twelve levels.

"Bottomless pits between the platforms are the second major danger to Hawkeye's health."

Aliens of various kinds accost the potential hero, robbing him of everything to touch. Bottomless pits between the plaforms are the second major danger to Hawkeye's health. Tracking down the puzzle pieces is aided by the two hawk eyes at the top of the screen. Depending on which side of you the next piece is, either the left or the right eye glows until you reach it. Get hold of them all and running to the right of the level takes you to the next.

The cassette multi-load between levels has a simple but pleasant sequence of Hawkeye being recharged that helps pass the time. What the gameplay boils down to is a horizontally scrolling platform game with plenty of shooting to spice it up. There is some neat programming, the parallax scrolling, the mix-e-load and other nice spots. The game may play like so many before it but it bears that touch of Thalamus Class.

In general the graphics are fine, but slightly let down by Hawkeye's sprite which should look a shade more butch to fit in with his build-up in the scenario. The music has all the sounds you might hear in a popular Hubbard piece but is without any catchability. Hawkeye is incredibly easy to understand, mainly because we have played it so many times before in other forms, be it Gryzor, Green Beret or North Str. That said, there is no doubt tht Hawkeye will be popular. There is loads of action and it's good to look at. You'll play a lot worse this Christmas.

T.H.

Graphics: 72%
Sound: 74%
Playability 63%
Overall: 66%
Rating: CRISP
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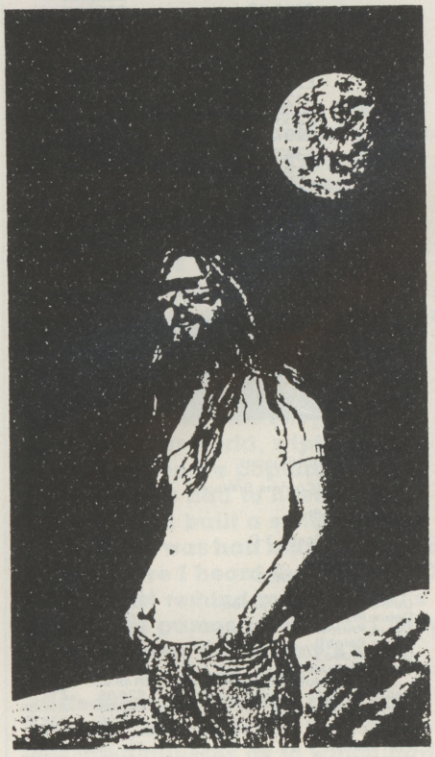
A software creator advocating cheaper software? But this is no ordinary software creator. Undeterred by the postal strike, Jeff Minter is back.



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Wow. Look at that. Existence and Creation at your command, all at the push of a mouse button. Ain't technology wonderful?

Greetings again from the depths of woolly welsh Wales. I don't even know whether this is going to make it through the postal strike in time in order to be published. (It didn't. That's why it's a month late! Ed) *I guess I should be on some sort of e-mail service and actually use all this technojunk I have lying around to bypass such random factors as recalcitrant humans, but my attempts to use Compunet have persistently been thwarted by the local telephone exchange, which is set an extremely ancient and cranky steam-drive electromechanical set-up which has probably been in service since 1902 and usually results in carrier loss every couple of minutes. Not to mention wrong numbers (in Welsh!) at seven o'clock in the morning.*

I've had quite a busy month, finishing my animation, going briefly out to Germany for an Atari show (huge Atari show, largest I've been to, well-attended, lots of interest in the light-synth) and finally ending up doing the Ars Electronica gig in London with Adrian Wagner. This was the first public outing for the four-channel lightsynth rig, and we were well received. The software performed flawlessly, much to my amazement (it is gratifying, and not a little surprising, to find that the system you just spent a year creating actually works!). As soon as we get the hardware required for a really clean video signal onto tape, we're ready to release a video.

After all that I decided that a little break was in order, so I stayed in Tadley a few days, drinking some serious beer and playing loadsa-games. Over 20,000 on Virus at last (save a missile for that tractorbeam ship, it's nasty!). Got into the new Firebird one, Whirlgig... a very strange game indeed, that one. It features some great shaded graphics and the dumbest smart-missiles ever. Firing the missiles is a gable at the best of times, as they frequently target your own ship instead of an enemy, or fly in frenzied orbits around the target never actually hitting it. A pretty nice game, once you get used to those missiles, but spoiled a little by the lengthy wait between sectors. Since the game is vast in scope, you have to truck through many sectors, sometimes only entering a sector for a few seconds to pop into a stargate. It spoils the continuity to have to endure a thirty-second wait between sectors.

Another painful thing was the fact that I got back here to Wales and booted the game, only to find that I'd left the manual back in Tadders and the game was asking for some word from page 14 paragraph 3 etc., hence no joy. Software protection is big-time hassle. Virus was just as guilty too, steadfastly refusing to boot up on any ataris with old external disk drives. I sometimes wonder whether it shouldn't just be left off altogether, as it nearly always involves severe inconvenience to the user. Perhaps it would be better to provide the software more cheaply and provide some incentive to buy originals (posters? free game after each five original purchasers?) so that people wouldn't feel so bad about getting originals. I can understand a certain reluctance to shell out dosh on a game which may well be rubbish anyway, or may refuse to boot because of some flaky protection scheme, especially at twenty quid a time for 18-bit software. Better games, and cheaper, I reckon is the solution.

(I'm sure I've lost the fiddly little slide-rule thingy you have to use to get Interceptor started, and I've mislaid my Carrier Command manual).

Besides, if software protection were to cease, just think of all the wailing and gnashing of teeth there would be amongst the hackers! They'd have no software to crack, they'd have to find something else to do, which I suspect would be to embark on a quest to create an infinitely-long, ultimately-boring scrolly message. (There is nothing in the world quite as stultifyingly boring as the contents of your average hack message. Usually they consist of:

(a) a load of self-congratulatory guff about their speed of hacking/skill in doing scrolly messages/whatever;

(b) info about themselves, their new demos coming out, their hacking group;

(c) the dreaded HELLOs. These are the worst. I've seen scrolly messages go on for hours saying 'Hi' to just about every Commodore user in existence.

Who do they think is actually going to sit and read this stuff??)

Thankfully, we Atarians are virtually untroubled by such hackers. Atari hackers are a lot more subdued, usually content with a simple title screen, and scrolly messages are virtually unknown. A few have been seen, but the perpetrators have usually defected to the Amiga before long, for which the rest of us are duly thankful.

I better go print this out, then try and find some way of getting it posted. I have to get back to my new raster routine I'm doing on the Atari, and my new sprite routines, too. In the next month I hope to get Starglider II, long-promised, reviewed even, but still not yet out (I bet the delay is due to software protection hassles too) and a couple more PC-Engine games. Maybe I'll even go to the PC show if I can stand the hype and bimbos handling out leaflets and software empires trying to out-mega each other.

Maybe I'll have the beginnings of an ST zap game written by then, too . . .

J.M.

GM

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WATCHING THE WATCHMEN

The Independent Fantasy Roleplaying Magazine

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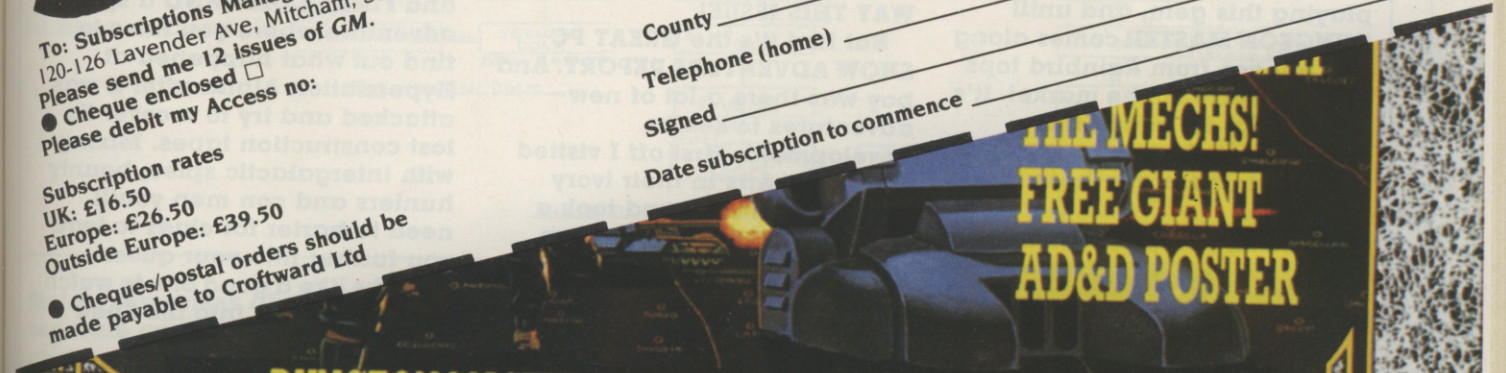

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Adventure

BY ANDY MOSS

COMMENT

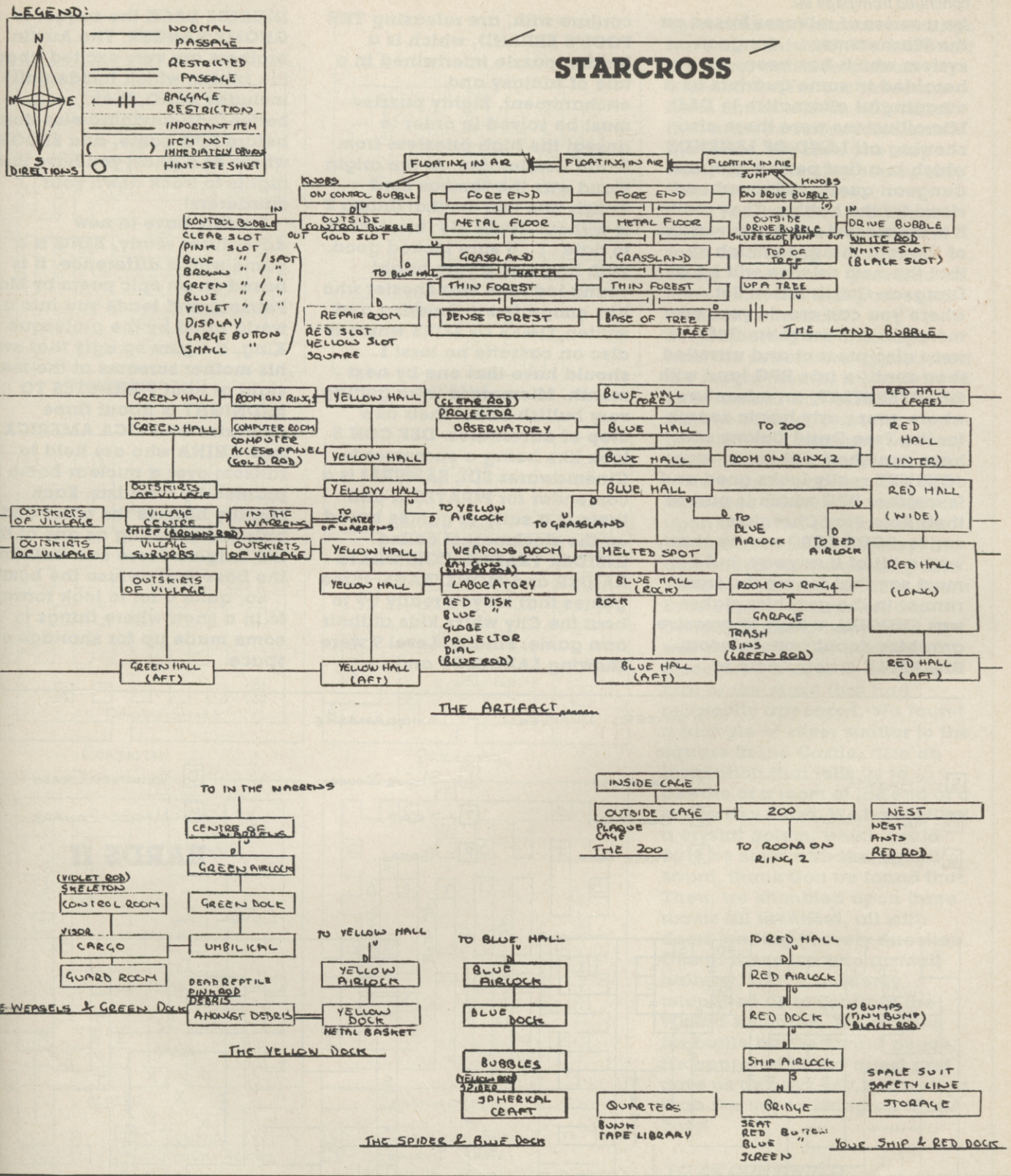
If you remember last month, I was burning the midnight oil over one game. WASTELAND really had me hooked, line, sinker and all and I thought that it would be a fair while before another adventure would grab me so strongly. Then LEGEND OF THE SWORD comes along, and what happens, I am, well and truly hooked again. Every waking minute, I have spent playing this gem, and until DUNGEON MASTER comes along this release from Rainbird tops anything else on the market. It's all laid out for you in this months review. Also as promised, there are those maps:

BARDS II and STARCROSS not forgetting the continuing saga of BARDS I. SO IT' MAPS ALL THE WAY THIS ISSUE!

But first it's the GREAT PC SHOW ADVENTURE REPORT. And boy was there a lot of new adventures to see in development. First off I visited Electronic Arts in their ivory tower Hotel suite, and took a look at NEUROMANCER from Interplay. There is still some way to go on the coding but it is shaping up well as an animated brain teaser. DEATHLORD looked like a poor man's version of ULTIMA and seemed a bit old to me; SENTINEL is a science fiction mystery with over 150 screens featuring a top down and first person perspective; looked good that one. ROGUES TO RICHES is a sequel to Demon Stalkers, only with more depth, and Ubi Soft, the French label EA for whom are handling distribution, have a couple of goodies, one entitled IRON LORD, mentioned a few issues ago, (which looks like Defender Of The Crown mixed with Summer Games and Lancelot!) and FINAL COMMAND a space adventure where you have to find out what happened at Hyperstation Alpha after it was attacked and try to recover its lost construction tapes. Mixing with intergalactic spies, bounty hunters and con men you'll need to barter for clues to lead you further into your quest.

Looks like a good one to watch out for. Moving into the Show proper, I came across Mindscape, who it seem are about to open up in the UK. The creators of Deja VU have two adventures coming soon, WILLOW, based on the new smsash hit Lucas film in the

STARCROSS



States, comprises of seven separate adventures from the challenge of the Labrynth to the perils of swordfighting to guide your willow characters to defeat the wicked Queen Bavmorda. Plenty of spells and mapping that changes with each game.

THE COLONY lets you explore a complete planet in real time while you explore a complete planet in real time while you attempt to find out what happened to the once thriving space colony that has been over run by aliens.

Mediagenic had a few surprises, not least with the news of WARHAMMER. With this role-playing game, they have signed an exclusive world-wide deal with the Games Workshop (remember Tower of Despair?) for three years. Warhammer will

cont. on next page

continued from page 99

be a series of releases based on the Warhammer — dungeon system which has been heralded in some quarters as a meaningful alternative to D&D. Microillusions were there also showing off LAND OF LEGENDS which is a first person graphic dungeon quest, with overhead views for the battles. They claim it is the closest computer version of the real thing; so much so that the next release will be a Dungeon Construction Set, where you can create your own monsters and mayhem. Infocom were also present and unveiled their venture into RPG land with QUARTERSTAFF, an adventure where your party has to search for the Tree Druid Colony who have vanished without a trace. JOURNEY really looks good and is another RPG which is part of their Role Play Chronicles series. ZORK ZERO was on show, well a bit of it anyway, but I must say that for me the front runner in the graphics stakes was SHOGUN, a truly impressive graphics debut from Infocom. BIG APPLE a new name to conjure with, are releasing THE FOOL'S ERRAND, which is a hidden puzzle intertwined in a tale of fantasy and enchantment. Eighty puzzles must be solved in order to unseat the high priestess from World domination. At the origin stand was the famous Lord British who told me that Ultima V is without doubt his finest work to date . . . it sure looked good. With him was a very bright young lad from Manchester who has emigrated to America and written TIMES OF LORE which is also on cassette no less! I should have that one by next month. Microprose were getting very bullish about their new crop of adventures. DEF CON 5 look like being a successor to Cinemawares SDI, SAMURAI is a contender for PIRATES II and there is a suite of games based on the stockmarket called INSIDER TRADER, CORPORATE RAIDER and MONEYBAGS, three games that let you really try to beat the City whizz kids at their own game. Finally, Level 9 were showing LANCELOT and INGRIDS BACK the sequel to GNOME RANGER. The Austin brothers are very excited about the future, which incidentally includes HERO, their better-than-anything-else-done-before RPG game, and SPOOK, where as a ghost you have three nights to track down your murderers!

Destiny have to new adventures ready, KING is a game with a difference. It is based on an epic poem by Marc Peirson, and leads you into a world ruled by the grotesque King, a figure so ugly that even his mother screams at the mere sight of him! 7 MINUTES TO MIDNIGHT is about three countries AMERICA AMERICA and CHINA who are held to ransom over a nuclear bomb planted by terrorists. Each country blames the other and only you perating as one of the lite Enigma Force can infiltrate the base and defuse the bomb.

So, quite a lot to look forward to in a show where things to come made up for shortage of space.

STARTER DUNGEON - TANGRAMAYNE.

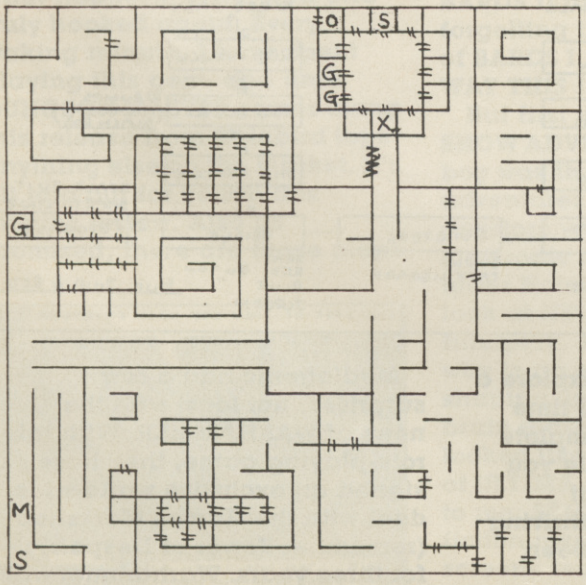
[S] - STAIRS. [X] - DARKNESS. [S] - STAIRS DOWN. [C] - VOLUNTEER CREATUR

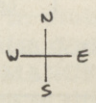
[M] - MAGIC MOUTH. [O] - OLD MAN. [T] - TRAP. [M] - MAGIC SQUARE

[G] - GUARDIAN. [Z] - PHASE DOOR. [P] - PORTAL.

BARDS II

LEVEL 1





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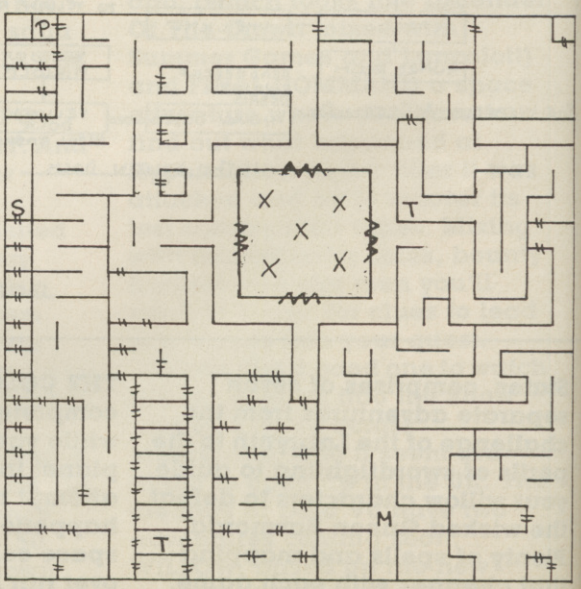
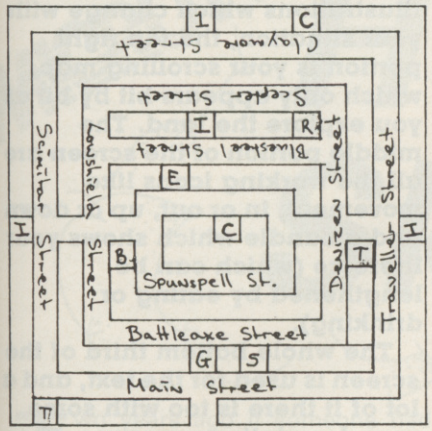
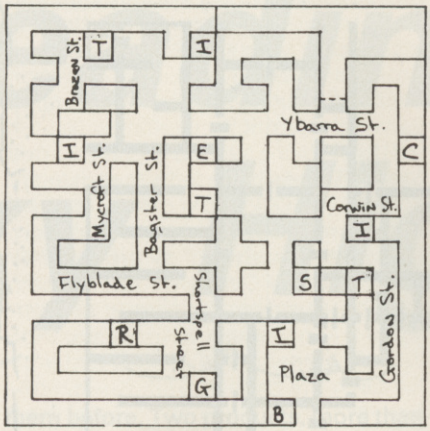
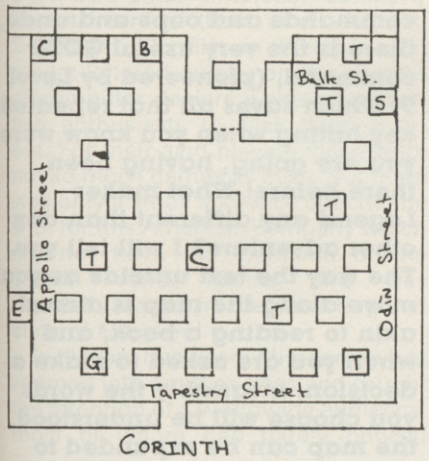




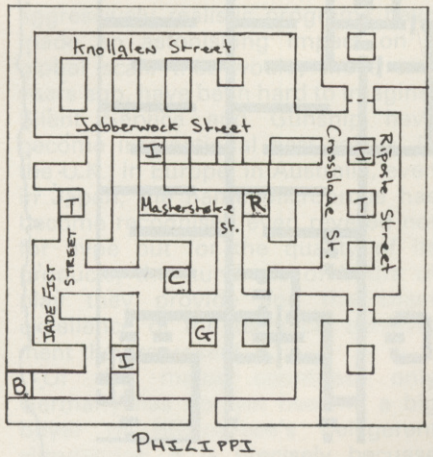
TANGRAMAYNE



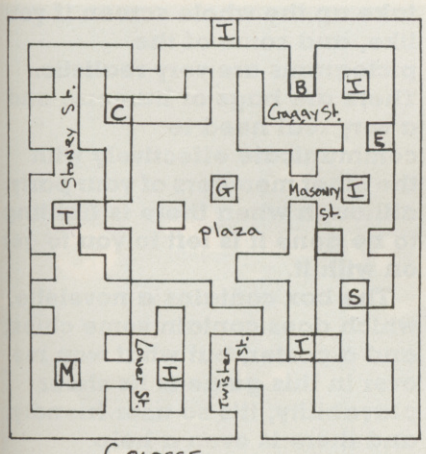
EPHESUS



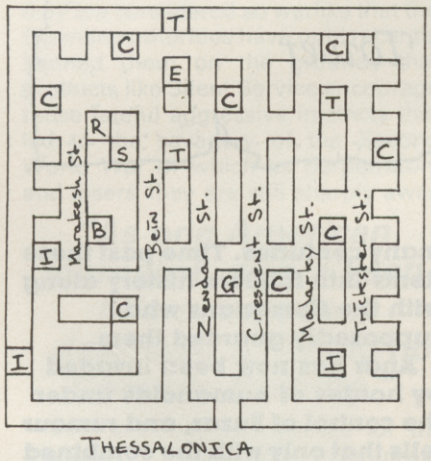
CORINTH



PHILIPPI



COLOSSE



THESSALONICA

KEY:-

- T - TEMPLE.
- R - REVUE BOARD.
- B - BANK.
- C - CASINO.
- E - ENERGY EMPORIUM.
- H - INN.
- S - EQUIPMENT SHOP.
- G - ADVENTURERS GUILD.
- I - TEMPLE WITH ENTRANCE TO TOMBS.
- M - STRANGE MAGE.
- --- - ACCESS BY PUZZLE SOLVING.
- I - DUNGEON ENTRANCE.

THIS MONTH . . . KYLEARANS TOWER

. . . And now the Mad Dog Tarjan, along with our fallen comrades and our surroundings have all vanished. We will enter the tower and demand an explanation for our presence here. Soriac tells us of a ritual that must be followed to enter the tower. We took one step west, then one step south, only then could we enter.

We received two messages here "made of earth, without soul, as a living statue he is whole" and "As a guardian he must walk, the first part of his name means rock". Remembering the message from the sewers, we approached the magic mouth, it challenged us to answer the riddle: "name the one of cold, foretold twofold" and because we were forewarned we did so with ease.

We were teleported to a vast dark area where we stumbled upon a second magic mouth. "Name the endless byway" it demanded. Remembering that eerie enchanged street in Scara Brae I spoke the name, but behold! nothing happened. It was not until later that we discovered a door in another part of the maze that had magically appeared. We found a triangle of silver similar to the square in the Castle, also an inscription that tells us to bewate of a room at the end of a snake like maze. We have killed a crystal golem, which could only be slain with the crystal sword, thank God we found that. Then, we stumbled upon three rooms all identical, all with doors leading in every direction. One of these led into a small hallway, which suddenly teleported us to confront the Wizard Kylearan. We readied for battle but he meant peace. He approved of our quest and gave us an onyx key, none other than the key to Mangars front door!

TO BE CONTINUED . . .

WITH GREAT THANKS TO FIONA BESSETT, JONATHAN DALE AND REZAS CLYRO, I AM PROUD TO PRESENT THEIR BARDS II AND STARCROSS MAPS WITH THE PROFOUND HOPE THAT ALL YE WHO HAVE ENTERED HERE DO NOT ABANDON ALL HOPE.

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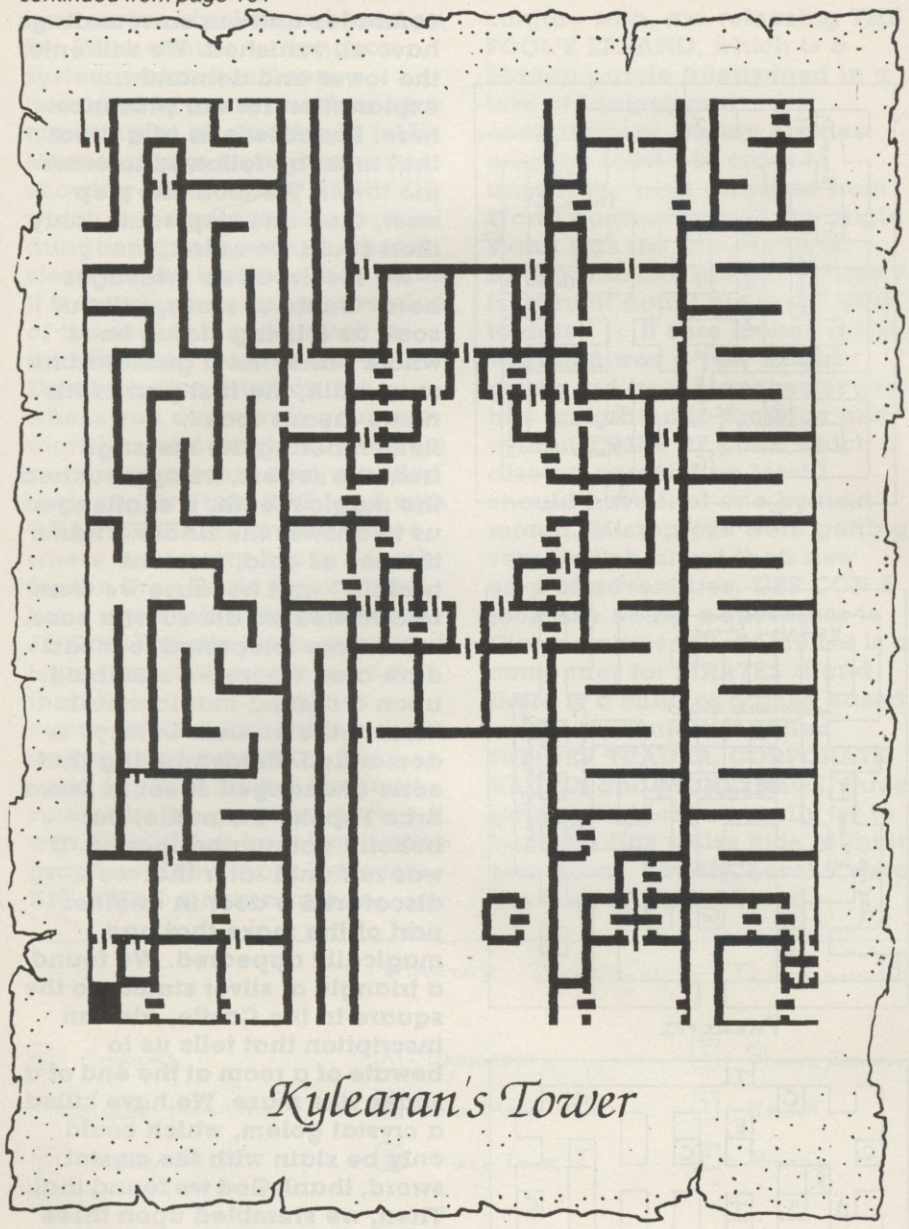

Kylearan's Tower

ADVENTURE REVIEWS

LEGEND OF THE SWORD
Rainbird Amiga/C64

Once in a while, an adventure comes along in a reviewer's life that makes everything worth waiting for, that game ladies and gentlemen is Legend Of The Sword.

The game tells of the chronicles of Anar and the mystical sword and shield whose magical aura protected the inhabitants of Anar for many centuries. Time past these items into folklore history along with the Corsarians who supposedly guarded them.

Anar has now been invaded by hordes of humanoids under the control of Suzar, and rumour tells that only with the combined force of the Sword and Shield will it be possible to defeat the invaders. You and a band of loyal men volunteer to find the enchanged artifacts and take on Suzar before time runs out. So a ship drops you and your party off on the uncharted island of Anar to begin your quest. This is where the game starts, and on screen you are presented with four different areas. The top left hand area, is used for over 350 individual illustrations which change with your situation, the top right portion is your scrolling map, which only appears bit by bit as you explore the land. The middle portion of the screen are all the working icons like movement, in or out, up or down and a candle which shows your lifeforce (which can be lengthened by eating or drinking).

The whole bottom third of the screen is used for the text, and a lot of it there is too with some very descriptive passages. The parser is a delight to behold, and as well as all the usual commands and oops and undo, there is the very useful GOTO command, (pioneered by Level 9) which saves all that repeated key hitting when you know were you are going, having been there before! What makes Legend any different than any other adventure? I will tell you. The way the text unfolds as you move along the map is almost akin to reading a book, and when you are asked to make a decision, invariably the words you choose will be understood. the map can be expanded to take up the whole screen if you like, and some of the pictograms are very realistic. There are bags of humour, and a very real need to communicate effectively with the other members of your party, although when there is fighting to be done it is left to you to get on with it.

The box contains a novelette, which does contain some clues, and a poster, but what won me over in this game is its sheer playability, it's so user friendly, and there is even a help command which kicks in without you asking it to.

Go get Legend Of The Sword right now and start having a ball.
PERSONAL RATING.....10

With all these maps in this month I have run out of space. Next issue though I will have lots of new things to look at, as well as visiting Infocom in the USA. Until then . . .

MICROPROSE

Heading Sky High

Two years ago if someone had asked you about Microprose you would probably have thought of them as a small simulation company or not heard of them at all. Acrojet, SoloFlight, Conflict in Vietnam and others loitered quietly on the shelves of computer dealers waiting for their few enthusiasts to seek them them out. For their avid players these were not so much games as cults. But there was only a small audience outside the U.S. for this American company which did not have the charisma of the Silicon Valley giants and was modestly based in the New England state of Maryland.

In the last two years Microprose has zoomed into another class and caught the attention of a worldwide audience, most of whom had barely noticed them before. Two products, more than anything else have been responsible for this change in public perception — Silent Service and Gunship. These two aggressively realistic programs have made an astonishing impact on a global scale that would, those two years ago, have been hard to imagine. Silent Service and Gunship have become international best sellers. In the U.K., in Europe, in Australia, even in Japan, the name Microprose has become recognised even revered not for hype but for the quality of its products, the hundreds of hours of play they provide and the sheer excellence of the technical achievement they represent.

Of the major countries, only Germany has not yet become a big buyer of Microprose's belligerent simulations. It is precisely becuase they are considered so warlike that the German authorities have until recently banned them on the grounds that products like Silent Service encourage those fateful aggressive instincts that led to the savagery of the Second World War of which as perpetrators and losers they are still sharply aware.

Stewart Bell, in charge Microprose Europe

"As one American journalist, also a keen Microprose fan, described it "Gung ho Commie Bashing."

Both the men responsible for the increased sales of Microprose products would dispute that accusation. Ex-U.S. Air Force Major (Wild Bill) Stealey (pronounced Stay-lee) the boss of the whole company and Stewart Bell, the M.D. of Microprose Europe have led the company's efforts to make a legal challenge to the German authorities — and the latest results make it seem that they might come out on top. (In the meantime, if you are a German player, visit your local sex shop where the games are often sold!)

Major Bill Flies High

Reserve Major William Stealey, Maryland, U.S.A.

When CCI went to meet the Boss of Microprose in Hunt Valley, Maryland on the East Coast of the U.S.A. he was still high. No, it was from a 'vacation' — if it can be called that — from which he had just that day returned.

It had been no ordinary vacation. The Major had gone for 9 days with his son, young Bill, on a special Outward Bound-style course designed for parents and children to live through "Survive" as Bill Stealey put it — together. In rough mountainous forest country, he and his 15 year old son had struggled through a series of "survival" tests, rope bridges 40 feet up and real rough country "And the thing that young Bill hated most was having to manage on a couple of pieces of toilet paper a day!" grinned the major. "My Gosh, I'm glad we did it but I wouldn't want to do that all again! It was real tough."

You could see that the overcoming of the challenge, perhaps the "survival" itself had the Micro-

cont. on next page

MICRO PROSE

Heading Sky High

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prose boss still excited, still high.

Had admitted that there had been times during the hard days that he would not have thought himself capable of completing some of the tasks that he and his son had been set but that he could not let his Young Bill judge him to be less than other fathers. The ever neat, military clean major Bill proclaimed proudly "You wouldn't have recognised me when I came back. I had nine days growth of beard!"

The following day with crisp white shirt and well-cut grey suit he was still noticeably ebullient. He addressed the usual Monday morning meeting of the entire U.S. staff of Microprose and only half jokingly suggested that next year many of them could be taking the same "vacation". While the Microprose people clearly had considerable respect for their leader there was no show of great enthusiasm at the idea. . . .

Major Bill's willingness to go out and seek challenges of the Outward Bound-type is typical of him. Proudly on his calling card, it proclaims that he is "advisor to the Pentagon" He has a delight in somewhat risks aerobatics — there is special Tee shirt awarded to those — including CCI we are pleased to say — who have flown the T28 with Major Bill and endured his penchant for twirling the plane about like a cheer-leader's baton. The Tee shirt bears the legend "I Cheated Death . . . with Major Bill". His idea of fun is to take Miss Microprose = the T28 — with his son off for a week to practice formation flying. . . . And there are rumours that last year a couple of times he stepped clear of emergency wheels-up landings. All gungho leader "danger twelve o'clock high", the high profile he has given himself has obviously benefited Microprose. While the legendary Sid Meier gets on with the programming — notable for his shyness, he was not even visible on CCI's visit — Major Bill has created a strong and relevant image for his company: military, bold, forceful, accurate, as close as possible to the motto of the company — Only the Action is Simulated, The

There is no doubt Microprose's successful record of simulation has been based virtually entirely on what some see as highly simplisitic and militaristic stance – or as one American journalist, also a keen Microprose fan, described it "Gung ho Commie Bashing."

Microprose's latest release Red Storm Rising fits in with that description (See CCI November review). Based on a best selling novel by Tom Clancy, also author of its predecessor 'Hunt the Red October' "Red Storm" has the Russians starting a conventional war in Europe to try to separate the U.S. from its NATO allies and grab the oil in the Persian Gulf. Not exactly a peaceful or most people would think a very likely scenario. Nevertheless, the undoubted brilliance with which Microprose has created a highly playable computer game out of this book will, it can confidently be predicted, bring it probably over half a million sales of "Red Storm", taking it up toward becoming one of the top selling games of all-time.

F-15 STRIKE EAGLE

More than 450,000 computer pilots have bought this in-depth simulation of the F-15 Eagle jet figher plane. "Platinum" award (250,000 certified sales) from the U.S. Software Publishers Association (SPA).

Is it just that appeal to violent instincts of which the Germans accuse Microprose that has brought the company such success? No, it is more than that. Even good products do not sell themselves. A Microprose, to make a world impact, has to create for itself the organisation that can get those products within reach of the consumer. It has to promote them and, in the case of games as complex as these support them with technical back-up for sometimes puzzled and angrily frustrated players.

Such a worldwide operation would have been impossible to carry out from Maryland. So two years ago, under the management of Stewart Bell, Microprose set up a European operation based in a quiet Cotswold town of Tetbury (pop. 4687) in the county of Gloucestershire in England. It is Microprose's European headquarters that has masterminded the conversion of Microprose's games from the Commodore 64 to other machines popular on this side of the Atlantic but not in the U.S. This has brought about a substantial increase in Microprose's target market and overall business. But not satisfied with that, Microprose has entered, largely in Europe, into joint ventures with other companies, like Springboard — of NewsRoom fame — and particularly Origin whose Ultima series is beginning to reach the sales levels of Microprose's own products.

The extra profits generated by the higher profile for Microprose and consequently increased sales of its products are not only spent on buying expensive aeroplanes (see box Major Bill Flies High) or even Stewart Bell's now famous Ferrari. They are being reinvested in ever more major products, some of which do not even fit into the normal Microprose mould, such as a football game, shortly to be released in two different formats. Microprose Soccer has been created by the highly talented team who programmed Wizball (CCI Oskar Winner for Game of the Year) and the very original Shoot 'em Up Construction Set. Sensible Software have already established themselves as one of the top European programming teams before they got together with Microprose and have now created a soccer game that has all the marks of an international success; not least because with Microprose's marketing muscle, it has been possible to produce not one but two football games designed for different continents.

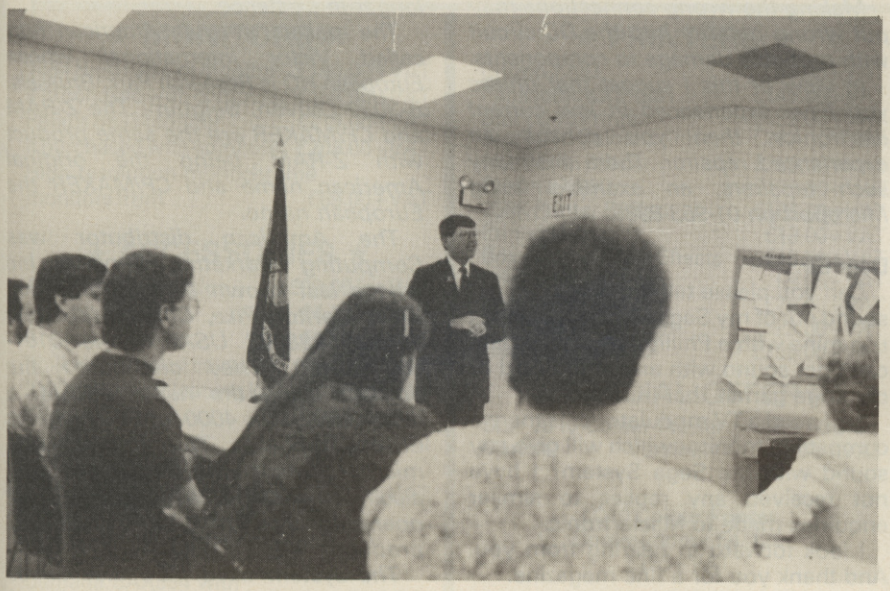
For the U.K. and Europe, Microprose will be releasing a normal eleven-man team game but for the U.S.A., more familiar with grid iron-style football, there will be a special five-a-side version. Both will have leagues and the ability to choose teams etc with plenty of the options that have made football games so popular this year, and pushed even variations on well-established games, like Football Manager II and Tracksuit Manager, to the top of the Charts.

Secret Projects

Microprose's unusual new ventures are not confined to sports, although the rumour is that they plan to make Microprose Soccer the first of a series of incursions into the field of sports simulations. They are also planning a game on a spying theme and have a number of other projects, still secret, under way that they believe will make an immense impact on the international computer games playing scene.

One project they are prepared to talk about is the conversion of their F19 Stealth fighter simulation to other formats. They may not sound all that exciting to you who have probably had the chance to play it already in its Commodre 64/128 version but for the increasing number of owners or users of IBM-compatible PCs it may be very good news indeed. For from what we have seen, and from the exhuberant

expressions of Stewart Bell, the PC Format is going to see something sensational, a level of sophistication and stunning graphics that makes the normally somewhat stodgy PC look more like an Amiga. The achievement of this very high quality action simulation is owed, says, Stewart Bell, to the programming genius behind all of Microprose's own successes, Sid Meier. The original founder, with Bill Stealey, of Microprose, Meier has been a dedicated Commodore 64 programmer since the Microprose simulation business began. It is only with extreme reluctance that Meier was persuaded to get involved with anything other than the 6502 engine. However, once bitten by the capabilities of the 16 Bit world he has clearly taken to it avidly and brought out some exceptional and previously unexploited facets.



H.Q. Staff Meeting, Monday, A.M.

From the brief examination, CCI was allowed in a recent visit to Microprose's Headquarters in Hunt Valley near Baltimore, it was clear that the tight control the player has over the movements of the plane and the fast speed and manoeuvrability F19 offers on the PC make the comparison that Stewart Bell draws between F19 on the PC and Interceptor on the Amiga by no means an exaggeration. If ever there were a program to ride the rising tide of interest in the IBM compatible computer, whether from Commodore with its increasing range and low prices, or from Alan Sugar's optimistically games targetted new Sinclair Professional or from the ever powerful IBM itself, this new Microprose product may be it.

60 Million Dollars

The increased business that Microprose's extended activity is bringing allows it to take on even bigger investments — and what some would call grandiose plans. Bill Stealey's predictions of a one hundred million dollar a year company by the early years of the nineties would seem unlikely had we not seen Microprose double in size in the last eighteen months and there are also other plans that could aid the impetus to push them up to that heady 9 figure level.

Lipkin is not a name that is likely to be very familiar to many computer game players. But mention it in the international arcade machine business and it will be instantly recognised.

Not only because Gene Lipkin's father was one of the founders of industry but for Gene Lipkin himself who was, before the Tramiel's left Commodre and took over, the President of Atari. Bill Stealey performed the difficult task of persuading Californian Lipkin to reverse the usual trend and go back East — to Maryland — and set up a new Microprose Arcade Machine Division.

Llipkin will not be stinted of reasources for Microprose is puting a $30 million investment behind him. By next year Lipkin hopes to have the first products hitting the arcades. What kind of games will they be? Not the usual Microprose simulations which are not suitable for arcades? Well, probably but nothing is certain "We are going to do things no one has yet done" says Lipkin. 'We are going to be very diffierent, the only rule will be that the products will be delivered by truck!"

The Arcade division obviously will produce games that Microprose can then convert to home computers and, Stealey believes, contribute substantially to his plans to build a $100 million a year company.

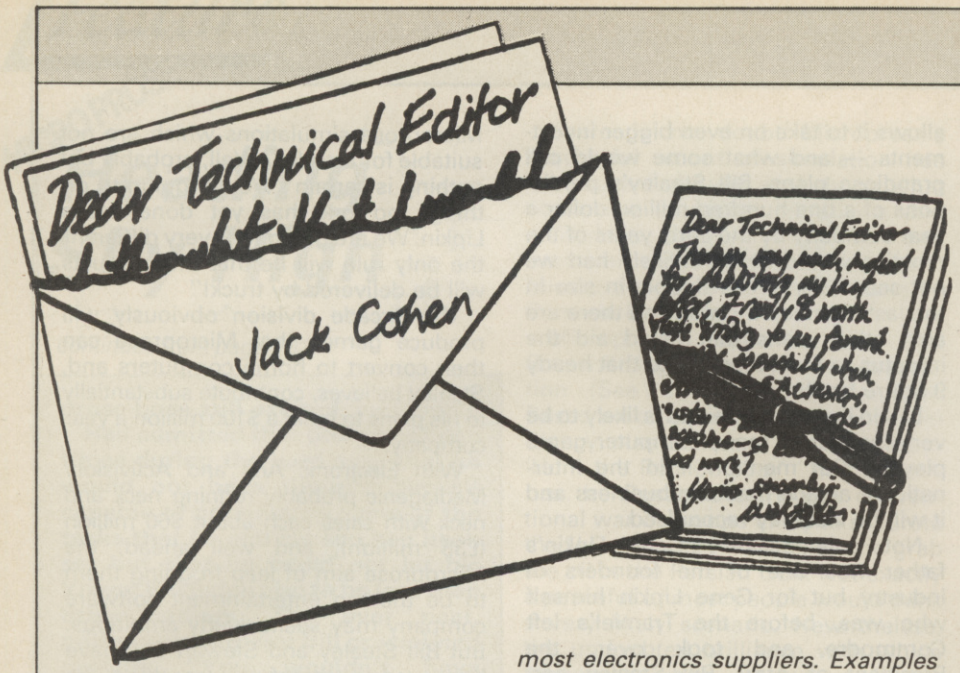
With Electronic Arts and Activision/Mediagenic probably running neck and neck with sales each about $60 million (£35 million), and well ahead, the Microprose aim of leap frogging them to be the top entertainment software company may seem overly ambitious. But Bill Stealey and Stewart Bell have been very successful in reaching the objectives they have set themselves so far. The $100 million mark may still be a long way above the company's present reputed sales of $25 million however the Microprose team is used to flying high and fast and shooting for difficult targets. Though this time the action is not simulated commie bashing but for real in the exciting but very tough world of international business. . . .

Sid Meier has definite ideas about what people want in a product.

"Gamers want a continuing stream of challenging and interesting decisions to confront. They like options, 'what-if' scenarios and countervailing considerations. People can go to movies for graphics, and books for story lines. They look to computers for the interaction and for stories in which they themselves are the main characters."

Excitement is Real!

However behind all that well-presented high profile personality lies another strength — that of a keen business brain. With a degree from a business college, years as a management consultant, and the success of running Microprose starting from nothing and often in adverse conditions, Major Stealey does not fly Microprose by the seat of his pants. There is a lot of hard work, shrewdness, determination and planning that is going into making Microprose one of the leaders in the entertainment industry. No, not just the computer side but bigger than that. For Bill Stealey sees the progress that Microprose has made so far as just a take off into a full-scale entertainment industry organization that can fly him and his company to much greater heights yet.



Dear Sir,

I am writing to seek some technical advice concerning my 15431 disk drive.

Due to carrying out an excessive amount of filing, the power supply in the drive overheated with resulting breakdown of some components. I immediately switched off, to prevent further damage and then examined the circuit board. I found that the bridge rectifier CRI (marked BR-82D) had melted and it also looks as if one of the transistors, which I take to be a regulator of some sort, has also blown (marked:8 H8432, LM 340KC, —5.0, 7805CK).

I am afraid to switch the drive back on to test whether it is still working incase further damage occurs.

I therefore desperately need the following questions answered:-

1. Is it likely that I have other damaged components, especially chips, that have no visible symptoms.
2. Would it be better to replace the whole circuit board or just the blown components.
3. Where can I obtain the necessary spares to facilitate such a repair.

Your help in this matter is most appreciated.

Yours faithfully,

J. Lee, Berks

Dear J. Lee

You are correct in surmising that the drive must not be switched back on. This would most probably cause further damage.

1. It is very likely that other components have already been damaged and that the damage may not be visible.

2. Once you have identified ALL damaged components, it is only necessary to replace them and not the whole PCB.

3. Spare parts can be obtained from most electronics suppliers. Examples are Watford Electronics, Technomatic and there are many more.

Making the wrong connections may put wrong polarity into the DC circuit with probable damage to components.

In view of this I suggst that unless you have experienced in low current electronics, then you consult an experienced repairer. There are many such repairers, an example being Microport on 01-953-8385.

Dear Sir,

Can you please tell me how I can get sound out of my Sega Master System? I use mine with a Phillips colour TV but I can't get sound with any of the card or cartridge games that I have.

Do I need a TV modulator or is there a compatible monitor which will give any sound with the Sega System? I have not received any replies to similar enquiries made to Mastertronic.

I look forward to hearing from you. And thank you for a fine magazine.

Yours sincerely,

O.J. Folorunso, London

Dear O.J. Folorunso

The Sega Master System is a game playing machine not programmable by the end user and not really within the scope of CCI.

I would expect that it is supplied with a lead to connect to a TV because this is a minimum requirement.

If sound is not transmitted then suspect that the system is faulty and should be replaced.

Have you tuned into the output channel properly?

Check the pinouts of the lead with a multimeter to see that it is correctly connected (if using a monitor).

Dear Mr Skinner,

We recently wrote to the ED requesting info on a Z80 board which can be put into the 8032 series. We did this ourselves some years ago but the supplier of the board has gone out of business. The board enables us to do CP/M work on the CBM and if you could point us in the right direction we would be very grateful. We have 2040,4040, and Mator hard disks, and we obviously would like to use these with CP/M operating systems, or others if they will work.

We have been able to link the floppy drives to a C64 and use them successfully with our own in house software, but could you tell us if these drives — connected to the C64 — would take software written on disks meant for the 1541 & 1571 drive units?

Yours faithfully,

R. Hamilton, Pritchitt Foods

Dear R. Hamilton

The only Z80 board to be imported into this country was the CP-MAKER which was distributed by TAMSYS in this country, who as you say are no longer in existence.

The makers were an American firm called Victor International whose European HQ is Research Park, Brussels, B-3030 Leuven, Belguim. The Z-RAM and CP/MAKER are the same product with Z-RAM being the original American name and CP/MAKER the European name.

The American distributor was Computing Marketing Services Inc whose last known address was 300 West Marlton Pike, Cherry Hill, New Jersey, 088002 USA. Phone 0101-6097959480. They distributed the product using the name Z-RAM, a circuit board for 4000 and 8000 series CBM computers. This had a Z80A microprocessor with 64k of ram and also provided with Z-RAM CP/M operating system V2.2 (circa 1983 product).

The system used IEEE disk drives with the dual drives being used as A and B. A diskett supplied with the board can be read in a CBM drive and contained a utility program to operate CP/M.

Another American distributor, who are the current ones, is Madison Computers of Madison, Wisconscin, USA.

As to your last question, it depends on whether the software is written specific to the roms in the 1541 or 1571. It will certainly work for ordinary software.

Dear Sir,

I would be most obliged if you could help me with some much needed advice, I have a Commodore 64C computer, and just recently purchased an Oceanic Disc Drive, with a GEOS system included in the purchase price.

The problem I have, which I have no idea how to solve, is that my printer is a Commodore DPS 1101 Daisy Wheel,

continued on page 108

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continued from page 106

as you in your wisdom probably know, there is no way that I can use the GEOS Geowrite Word Processor using this type of printer.

I have been in touch with Berkely Software, who have said that their drivers only accommodate Dot Matrix Printers, and that they have no plans for them to be used with Daisy Wheel Printers.

I would therefore appreciate any help you could offer me.

If you can suggest any firm etc. who could make my units compatible to run the Geos Database and Word Processor, I would be most grateful, as I am unable at this present time to afford to purchase a Dot Matrix Printer, but I have found the Geos system is so good, that I would very much like to use this system if at all possible.

Failing this, could you let me know of any firm in South Wales that you are aware of, who would consider taking my printer in part exchange for a suitable Dot Matrix, my printer is less than a year old.

Hoping most sincerely for help,
Yours respectfully,
F G Orders

Dear F G Orders

GEOS writes text as graphics and therefore cannot output to a Daisy Wheel which is a non graphic printer. It is not practical to produce an interface to produce text differently for Daisy Wheel printers.

One of the reasons being that GEOS uses so much memory.

So, as you see, Berkely Software have good reason for not implementing printer drivers which would negate one of GEOS's best features. This is the variety of fonts available by using graphics to produce text.

It seems unlikely that any other firm will produce the interface you require since the market would be extremely small.

I don't know of a suitable firm in South Wales who can help you, but you can try Computer Exchange in Leeds, phone 0532-435583 who will act as an agent in selling your printer and also to buy another.

Dear Sirs,

Could you please help me find out how to use a diskette head cleaning kit? The instructions say 'activate drive for approx 30 seconds' — it sounds so easy! But it ain't! None of the usual commands I have used so far keep it going for long enough. Also, how do I ensure it cleans the other head of my double-sided 1571 drive?

I'm sure other readers will have come across the same problem.

Yours faithfully,
P L Hill

Dear P L Hill,

I must admit that I have not used a head cleaning kit for many years and I have not had any problems as a consequence.

A cleaning diskette will automatically clean both heads when used in a doublesided drive.

A simple way to keep the drive going for a set time is to use one of the commands inside a timing loop using TI$.

Here is a short program using TI$ 100 TI$="000000", 110 OPEN 15,8,15, 120 PRINT£15,"I", 130 IF VAL(TI$) = 9 THEN CLOSE15:end, 140 GOTO 120.

You will notice that the clock is operating at a third of normal because of the disk access.

Dear Jack Cohen,

The good old C64 has been around for years now and seems to have everything in software and hardware. Why then is it I can't find anywhere, a clock type device, similar to the Amiga Clock.

All I want is the ability to plug in a cartridge that has the time, day and date and retain it when I turn of the base? Surely someone out here in the world of electronics can devise something.

Secondly, is it possible to get personalised roms, so that when I switch on I Don't get the yucky blue that makes me want to chuck?

Excellent mag etc. etc.
Cheers
J Bourne

Dear J Bourne,

What you want is too expensive for a very limited potential market to be viable.

A similar clock for the PET/CBM was priced around £100.

Yes you can write to EPROM using an EPROM blower.

The contents of the ROM are transferred to RAM and the appropriate code then altered and the whole saved to the EPROM.

Try Datel Electronics for the equipment or, if you are only going to do it once, then perhaps you could borrow some.

Dear Technical Editor,

I too, like Mr F Hill, own a CBM 64 and an Enhancer 2000 disk drive and I have also had some problems with finding software that will work with disk drive. However, I have found that I can overcome these problems with a little forethought.

I have found that it is not so much the protection techniques that defeat the Enhancer 2000 as software that incorporates its own fast load routines. Therefore, I avoid them and try to obtain a cassette version (more about this later).

All software produced by Commodore, I have discovered, will run on the Enhancer 2000 for example Logo, Pascal, Sound Studio and Simons' Basic Extension etc. I have also found that all software produced by Supersoft ie. Wordperfect (which I am using to write this letter), Instant Recall (a database programme), Busicalc (a spreadsheet programme), will work. However, although Busicalc will run, it will not save, except to tape.

It seems, from my experience, that software that follow Commodores' disk software rules will work with the Enhancer 2000.

I would also like to mention that I too own Mini Office II. The only way to get it to work is to exchange the disk version for the tape version and, with the aid of a cartridge like Freeze Frame or Action Replay, transfer the programme to disk. The programme, infact any programme, will then run on the Enhancer 2000.

Now to my problem, as mentioned before, Busicalc will not save on the Enhancer. Examinining the disk directory has shown that Busicalc opens two sequencial files for a saved file (ie. "programme name. gra" seq and "programme name." ★seq). This indicates that the write file is not closed, therefore the drive cannot reaccess the saved programme file, and I get a write file open error display. I have tried to close this open write file, without success. I have and Basic commands, as shown in the Enhancer's manual and Basic commands from various Commodore orietate books etc. to try to close the Busicalc write file. Therefore, the question is how can I close this open write file?

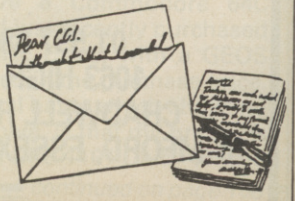
I hope my letter can be of some help, to Mr Hill, and that you will be able to solve my problem.

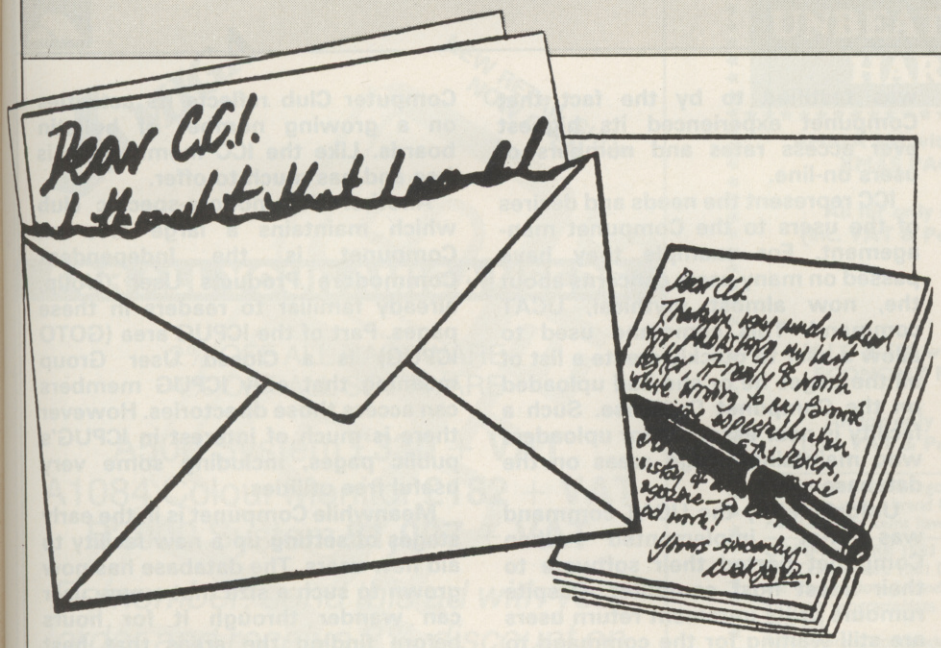
Yours faithfully,
R C Lawrence

Dear R C Lawrence,

If you have or can obtain a good disk monitor, one which works with the Enhancer 2000, then by writing a 0 into the appropriate location in the directory sector where your files names are located and then validating the disk so that the BAM is corrected, you will see that the system will ignore those files.

Your sequential files will be represented by $81 and this must be altered to 00.





Dear CCI,
As an avid reader of your excellent magazine for over two years. I took great interest in your review of Salamander in the October issue. I was pleased that you thought it a Crisp 75%, but not as pleased as a "Mega" would have made me.

The reason I say all this is because you have changed your rating now in your chart section (Nov. issue). The rating given to it now is Mega. Can I hope that if it sells well for another month it may even get an Awesome rating?!

Yours sincerely
Peter Baron
(Another C64 Salamander)
PS. Why did you disguise Jeff Minters column as an advertisement for "Newsroom".

Dear Peter
You are quite right the original rating for "Salamander" was "Crisp" and the rating in the charts was wrong. Some of us thought Salamander was so good it should have got a Mega rating so perhaps it was a 'Freudian Slip' to call it Mega in the charts. No hope of it getting Awesome but maybe for your next game. What about telling CCI readers what you are working on now. PS. As you will read in this month's Jeff Minter column it was written for last month but never reached us, getting stuck in the postal strike. Circumstances beyond our control . . .

Dear CCI,
In the August issue of our fab magazine I read that two Norwegian "heroes" had been awarded of the Congressional Medal of Honour. So, to tranquillize the public opinion about the NATO defences even in the Southern Border, I have sent to you the enclosed disk proving my score: I finished F-19 Stealth Fighter with 99 missions (use the Recall Pilot option on the preflight briefing to recall Brigadier General Fabio Anderle), 8 Airman's Medals, 3 Bronze Stars, 2 Silver Stars, the Distinguished Flying Cross and, of course, the Congressional Medal of Honour. After checking it, you can throw the disk out of your window but, by the way, have you run out of stock of "Carriers at war"?

Talking about the magazine, I have to say that it's not so easy to find every issue here in the northern part of Italy, even at an almost doubled cover prize. Can you do anything to afford and resolve this problem? I think that all Italian CCI readers would be pleased.
Yours sincerely
Brigadier General Fabio Anderle

Dear Brigadier General Fabio Anderle
Our congratulations, we salute you General on an exceptional performance as a F19 Stealth Fighter Pilot. We would never dream of throwing your disk out of the windows! We will kept it in an honoured position in our heroes gallery!

We are sorry that you find it difficult to get CCI in Italy. Plenty of copies go there (or so the gorgeous Sarah Jones of our distributors Comag tells us!). We suppose that they get sold out quickly. But we'll try to get some extra ones coming in your direction — or you could take out a subscription. We have *run out of Carriers at War, a very popular game. But SSG have given us Halls of Montezuma (reviewed CCI October) which will shortly be winging its way to you.*

Dear CCI,
It is sad in these wonderful days of science and technology that old (or not so old) wives' tales can still survive. Take your recent reviews of biorhythms. I know that the headline and name of the prog *Fun Biorhythms* will be used as an excuse that your where taking a light-hearted look at biorhythms, but the content of the review contradicts this possible claim. Indeed, the program was 'recommended to all those who want to be in tune with their rhythms'. What utter garbage!

Contrary to claims made in you review and elsewhere, the evidence for biorhythms is virtually non-existent. I can be confident that the number of scientists who have demolished the theory of biorhythms by far outnumbers those who support them. It is questionable as to whether there are even real scientists among the latter.

The world's leading test of biorhythms was carried out in the UK by the Road Research laboratory of the Department of Transport. They checked the biorhythms of 112,560 drivers involved in accidents and could not find a correlation between biorhythm claims and the actual biorhythms of the drivers involved, whether they were to blame for the accident or not. The Royal Air Force also looked at biorhythms as a possible causative factor in aircraft accidents and could find no connection. These comprehensive tests should hve put an end to biorhythms, but they obviously haven't.

I recently wrote a review praising *Super Chips* produced by Free Spirit Software who have also given us *Fun Biorhythms*. What a contrast between the two. *Super Chips* is a really worthwhile purchase for Commodore 128 programmers. In view of the unreality of biorhythms, *Fun Biorhythms* must be the most useless program on the market. A bad games program may give only five minutes enjoyment, but I don't see how a biorhythm program can give even that, except to the ignorant. It's useless and I can only encourage CCI readers not to waste money on it.
Yours faithfully
Mike Hutchinson, Essex

Dear Mike,
You certainly are entitled to your view that biorhythms are a load of nonsense or even don't enlist but the fact that 'scientific tests' have not found evidence for something does necessarily disprove its existence. Scientific testing methods are as dependent on conventional ideas as the minds of the people who create them. 'Science' uses specific proving formulas such as the need to be able to repeat a result

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Compunet Clubs

The Independent Compunet Club (ICC) and the Communications Computer Club (CCC) are both independent groups of Compunet enthusiasts who run their own areas of the on-line database.

The ICC is the older of the two clubs, its stand being well known at computer shows. The ICC area on Compunet (GOTO ICC) contains a substantial amount for information for the C64/128 and Amiga owner alike. They also provide a number of very useful public services, for example the ICC Advice-Line (GOTO ADVICE). Realising that Compunet users represented a wide cross-section of skills and qualifications it was decided to provide an area where others could ask free advice of those on the Net with the relevant knowledge. The result has been that experts in every field from Cycling to Pensions and from Coin Collecting to Psychiatry have stepped forward to offer their help, both in public and private.

Despite its usefulness to all Compunet users the ICC is hardly staid. Recently it organised an on-line party with various Compunet celebrities holding court in different 'rooms' for an evening of small talk, scandal and competitions. Its success was testified to by the fact that Compunet experienced its highest ever access rates and numbers of users on-line.

ICC represent the needs and desires of the users to the Compunet management. For example they have passed on many users concerns about the, now almost mythical, UCAT command. This command used to allow a user to quickly create a list of all the pages he or she had uploaded on the Compunet Database. Such a facility is near essential for uploaders who maintained large areas on the database.

Unfortunately the UCAT command was not implemented when Compunet ported their software to their latest host computer. Despite rumours of its imminent return users are still waiting for the command to be reappear.

The CCC is a much younger organisation, started in May, this year. Its area of the database (GOTO C.C.C.) contains quite a lot of blank pages and empty directories which are hopefully soon to be filled. However, search deep enough and there are some very good news and review items in the area. I was especially interested in a series of reviews about the state of Japanese computer magazines!

The CCC was originally called the Compunet Computer Club, but its renaming as the Communications Computer Club reflects its activities on a growing number of bulletin boards. Like the ICC membership is free and has much to offer.

Another Commodore-specific club which maintains a large area on Compunet is the Independent Commodore Products User Group, already familiar to readers in these pages. Part of the ICPUG area (GOTO ICPUG) is a Closed User Group meaning that only ICPUG members can access those directories. However there is much of interest in ICPUG's public pages, including some very useful free utilities.

Meanwhile Compunet is in the early stages of setting up a new facility to aid new users. The database has now grown to such a size that a new user can wander through it for hours before finding the areas that best match their interests. Although such meanderings are always of great interest it can be a little annoying when one is searching for news of, for example, Heavy Metal music, but keep finding oneself in directory after directory of reviews of Amiga games.

The proposed new help facilities should I aid new users in quickly integrating into the very friendly Compunet community. Next month we will be looking at logging on to Compunet for the first time: how its done, how to find the areas that best fit your interests and how to make contact with other users.

J.L.

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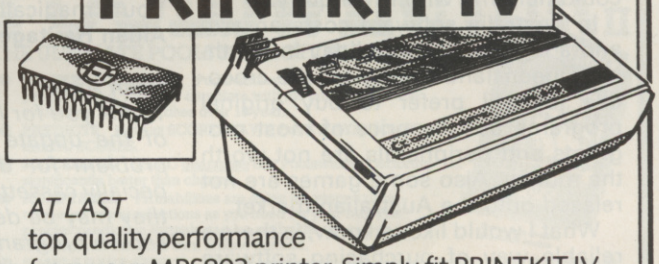

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under similar condition. The feet that the result is not repeated or easily repeatable does not mean it did not happen in the first place. Biorhymths are pretty unlikely things but then so would most of the 'science' especially say physics or medicine of today be so considered not so many years ago! A mould — antibiotics — curing diseases; sound waves healing muscle damage . . . Acupuncture! Sticking in needles! And these are only in medical areas. How long ago was it the conviction of all right thinking people that not only was the world flat but that our planet was the centre, even the most important site in the universe . . . I agree biorhythmus are improbable — but not impossible because our present level of scientific verification has not found in their favour.

P S Super Chips next month.

Dear CCI,

Firstly, may I congratulate you on the best Commodore publication in the United Kingdom. Since purchasing my C64 17 months ago I have become a regular reader of your magazine. I wish to thank you for the great articles, tips, pokes and reviews which are featured in your magazine. The game reviews are invaluable help when it's time to buy games. I base my purchases on the comments you give.

Now that I'm on the subject of buying software I was hoping you could help me with my inquiry.

In Australia software costs an arm and a leg just like a holiday in Northern Queensland. (Sorry for the crocodile joke.) I prefer to buy original programs but the price of most programs and peripherals are not worth the money. Also some games are not relased onto the Australian market.

What I would like to know, is there a reliable way of purchasing software from your fine country.

If it is possible could you please send me any information as I would greatly appreciate it.

Yours faithfully,

Gary McSweeney

Dear Gary,

There are many mail order companies who advertise in CCI who would be happy to send you their catalogues and serve you with software. I have heard before that software is unduly expensive in Australasia. It can't really have much to do with the distance — our magazines go all that way and don't cost that much more. It's probably, as one of our growing number of Australian readers told us, just the distribution people getting all they can. We hope you'll contact the U.K. mail order firms and get software at a reasonable price.

p.s. We loved the crocodile joke. Pity they didn't get to bite off the Dundee films before the movies escaped from the Outback.

Dear CCI,

I read with interest the query raised by F Hill in the October issue of CCI. He has a problem that confronted me as well — I wanted a disk drive that was fairly cheap nd reasonably reliable and so went for the enhancer which came bundled with a wordprocessor. Whilst the wordprocessor had it's uses it was fairly limited (although if memory serves you could send control codes to the printer which might in itself solve the problem). I then invested in a copy of Mini-Office II which had received good reviews but of course it would not load with my drive. Ah well, another piece of software I can't use I thought — still, persevering I decided to drop Database Software a line to see if they could help. Just as well I tried because they had had other letters from users of the program with the same disk and had decided to re-write the protection routine. This they have now done and I have a copy of the program that runs with both my Enhancer drive and the Oceanic OC-76 I now own as well.

I trust that this information is of use to you and your reader.

Yours magically

Aidan Heritage

Dean Aidan,

Thank you for letting CCI reader know of the upgate to Mini-Office II. The problem for drives or even for especially cassette players is that though they may be designed to deal with all known programs there will always be some really smart code writers who will come up with something that defeats them. In the case of Mini Office II, I remember Richad Franklin, a longtime CCI contributor, telling us about a special protection he was thinking of using on Mini-Office II with which he was involved. He must obviously have incorporated it hence its effect on some drives. It's interesting to know that Database was interested enough to provide another protection system. Good work, Database (Did you write that to, Richard?)

Dear CCI,

I'm a Plus/4 – freak and I live in Eastern Germany. In my spare time I like programming principal, but I'm also interested in collecting souvenirs (such thinks like autographs, posters, pencils . .) of international COMPUTER — magazines.

If you will send some souvenirs to me I would be glad of it.

Here's my address: Holger Voigt
Kirchplatz 7
Dresden
GDR 8021

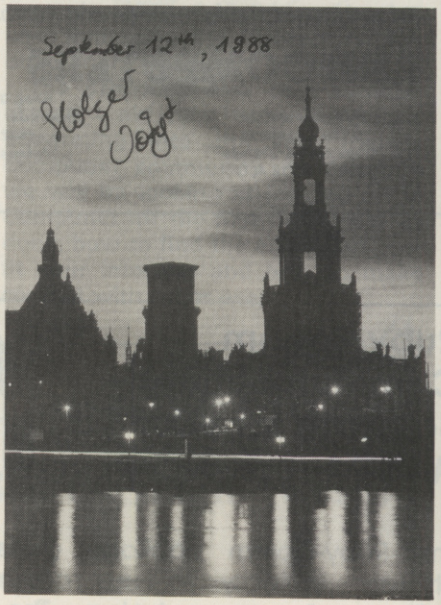
And now I want to give a big praise to you. One month ago I got my first CCI and I was surprised to read so much about the Plus/4. In German magazines that is next to impossible. For that reason I want to read the CCI further.

For health we eat,
For computing we read!

Yours sincerely

Holger Voigt, Dresden

P.S. Because I'm not able to pay the return postage in Sterling I send to you my autograph on a postcard of my beautiful hometown. It will become valuable!



Dear Holger,

There must be something in the Eastern European education that gives you an extra dose of cheek! 'Souvenirs' CCI! We are not a 'souvenir' but a vital contribution to Pan European Culture! We don't have anything near enough on the Plus/4 to please many of our readers but we'd be happy to have some from you or others in the DDR. Out of the goodness of our hearts we will send you a 'souvenir' and we're publishing your address so that anybody who wants to can do the same.

It will help the cause of the Plus/4 in the international relations!

'For health we eat, for computing we read'. I love that! Possibly your autograph will become valuable so in exchange your souvenir will be a CCI T-Shirt and a year's subscription.

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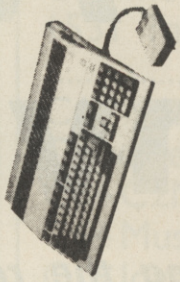

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Art Conversion

WHILST writing the reviews for "Screen F/X" and "Billboard Maker" and previously, for "Photo Finish", one of my main problems was not owning any of the Programs from graphics could be used.

Each of the aforementioned, being American in origin, obviously rely on American Products: Blazing Paddles, Animation Station, etc. Whilst these are available over here from various sources it struck me that they would probably be better received if more widely available "Graphics/Art Packages" could be used.

I use "The Advanced Art Studio" which I find to be quite adequate, coupled with "The Art Studio" for Hi-Res work.

To enable me to write a proper review, I first had to write a conversion routine so that I would use "Advanced Art" graphics.

As these are multicolours graphics I chose to convert them to "Blazing Paddles" format.

These are a complete set of listings necessary and include a Basic loader for the machine code, with its source code listing and the Basic listing of the main programe.

Nigel Streeter

Advanced Art Studio to Blazing Paddles Convertor Instructions

Type in the Main Basic Program and save it.
TAPE USERS Please note the changes within the Program for your use.
Next type in the Machine-Code Loader and save it.
TAPE USERS save this Part onto a different tape.
Run the loader Program.
The Program includes a checksum error check. If you've typed it in correctly you will be asked to enter the device number. Enter '1' for tape or '8' for disk.
The machine code will then be saved to the specified device.
TAPE USERS Please save the machine code immediately after the Main Basic Programme.

Instructions For Use:
Load and run the Basic Programe.
The machine code will be loaded automatically and the first screen will be shown.
Select '1' or '2'.
Enter the filename of the Picture you wish to convert then the name to use for the converted file.
It is NOT NECESSARY to enter the 'mpic' suffix used by "The Advanced Art Studio" or the 'PI.' Prefix used by "Blazing Paddles", the Program will do that for you.
Follow the on-screen instructions to load and save the files.
PLEASE NOTE: To keep the Program simple and short. I've NOT included any error checking so please ensure that the filenames you use are correct.

continued on page 116

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Art Conversion

continued from page 114

```
10 POKE56,32:CLR:IFPEEK(32768)=165THEN30
20 POKE147,0:SYS57812"AA/BP.MC",8,1:SYS62631
30 PRINTCHR$(147):POKE53280,15:POKE53281,15:POKE646,6
40 PRINTTAB(4)"ADV ART STUDIO/BLAZING PADDLES"
50 PRINTTAB(4)"──────────────────────────────"
60 PRINTTAB(7)"[CD3]1. A. ART STUDIO - B PADS."
70 PRINTTAB(7)"[CD2]2. B PADS. - A. ART STUDIO"
80 POKE19,1:INPUT"[CD3][SP7]PLEASE ENTER 1 OR 2 : ";SE$:PRINT
90 SE=VAL(SE$):IFSE<1ORSE>2THENCLR:PRINT"[CLR]":GOTO40
100 IFSE=2THEN290
110 PRINT"[CLR]"TAB(10)"[CD]A. ART STUDIO - B PADS."
120 PRINTTAB(10)"──────────────────────────"
130 POKE19,1:INPUT"[CD2]A. ART STUDIO FILENAME ?: ";AR$:PRINT
140 POKE19,1:INPUT"[CD2]B PADS. FILENAME ?: ";VI$:PRINT
150 IFLEN(AR$)<12THENAR$=AR$+" ":GOTO150
160 IFLEN(AR$)>12THENAR$=LEFT$(AR$,12)
170 AR$=AR$+"MPIC"
180 IFLEN(VI$)>13THENVI$=LEFT$(VI$,13)
190 VI$="PI."+VI$
200 PRINT"[CD3]PRESS SPACE TO LOAD A. ART STUDIO FILE"
210 GETA$:IFA$<>CHR$(32)THEN210
220 PRINT"[CLR]LOADING A. ART STUDIO FILE..PLEASE WAIT."
230 POKE147,0:SYS57812AR$,8,1:SYS62631
240 PRINT"[CD2]PRESS SPACEBAR TO SAVE B PADS. FILE"
250 GETA$:IFA$<>CHR$(32)THEN250
260 PRINT"[CD2]SAVING[SP2]B PADS. FILE....PLEASE WAIT."
270 SYS57812VI$,8,1:SYS32768
280 PRINT"[CD3]FINISHED....":FORT=0TO1500:NEXT:CLR:PRINT"[CLR]":RUN
290 CLR:PRINT"[CLR]"TAB(10)"[CD]B PADS. - A. ART STUDIO"
300 PRINTTAB(10)"──────────────────────────"
310 POKE19,1:INPUT"[CD2]B PADS. FILENAME ?: ";VI$:PRINT
320 POKE19,1:INPUT"[CD2]A. ART STUDIO FILENAME ?: ";AR$:PRINT
330 IFLEN(AR$)<12THENAR$=AR$+" ":GOTO330
340 IFLEN(AR$)>12THENAR$=LEFT$(AR$,12)
350 AR$=AR$+"MPIC"
360 IFLEN(VI$)>13THENVI$=LEFT$(VI$,13)
370 VI$="PI."+VI$
380 PRINT"[CD3]PRESS SPACEBAR TO LOAD B PADS. FILE"
390 GETA$:IFA$<>CHR$(32)THEN390
400 PRINT"[CLR][CD2]LOADING B PADS. FILE....PLEASE WAIT."
410 POKE147,0:SYS57812VI$,8,1:SYS62631
420 PRINT"[CD2]PRESS SPACE TO SAVE A. ART STUDIO FILE"
430 GETA$:IFA$<>CHR$(32)THEN430
440 PRINT"[CD2]SAVING[SP2]A. ART STUDIO FILE..PLEASE WAIT."
450 SYS57812AR$,8,1:SYS32876
460 PRINT"[CD3]FINISHED....":FORT=0TO1500:NEXT:CLR:PRINT"[CLR]":RUN
```

```
100 POKE53280,0:POKE53281,0:POKE646,7
110 PRINT"[CLR][CD2]LOCATING DATA... PLEASE WAIT..."
120 GOSUB210
130 PRINT"[CLR][CD3]DATA LOCATED..."
140 PRINT"[CD2]PRESS ANY KEY TO SAVE TO DISK."
150 POKE198,0:WAIT198,1
160 PRINT"[CD3]SAVING DATA... PLEASE WAIT..."
170 SYS57812"AA/BP.MC",8,1:POKE193,0:POKE194,128:POKE174,241:POKE175,128
180 SYS62957
190 PRINT"[CLR][CD3]DATA SAVED OK..."
200 END
210 CK=0:PA=32768
220 FOR LI=340 TO 650 STEP 10:PRINT"[CLR]";LI
230 FOR A=1 TO 8
240 READ D
250 IF D>255 THEN 320
260 POKE PA,D:PA=PA+1
270 CK=CK+D
280 NEXT
290 READ CS:IF CS<>CK THEN 330
300 CK=0:NEXT
310 RETURN
320 PRINT "DATA RANGE ERROR IN LINE ";LI:END
330 PRINT "CHECKSUM ERROR IN LINE ";LI:END
340 DATA 165,001,041,254,133,001,169,000,0764
350 DATA 162,032,133,251,134,252,169,000,1133
360 DATA 162,160,133,253,134,254,162,032,1290
370 DATA 032,215,128,169,064,162,063,133,0966
380 DATA 251,134,252,169,000,162,192,133,1293
390 DATA 253,134,254,162,004,032,215,128,1182
400 DATA 169,056,162,067,133,251,134,252,1224
410 DATA 169,000,162,196,133,253,134,254,1301
420 DATA 162,004,032,215,128,169,000,162,0872
430 DATA 160,133,251,134,252,173,040,067,1210
440 DATA 141,127,191,173,041,067,141,128,1009
450 DATA 191,169,251,162,000,160,200,032,1165
460 DATA 216,255,165,001,009,001,133,001,0781
470 DATA 096,234,234,234,165,001,041,254,1259
480 DATA 133,001,169,000,162,160,133,251,1009
490 DATA 134,252,169,000,162,032,133,253,1135
500 DATA 134,254,162,032,032,215,128,169,1126
510 DATA 000,162,192,133,251,134,252,169,1293
520 DATA 064,162,063,133,253,134,254,162,1225
530 DATA 004,032,215,128,169,000,162,196,0906
540 DATA 133,251,134,252,169,056,162,067,1224
550 DATA 133,253,134,254,162,004,032,215,1187
560 DATA 128,173,127,191,141,040,067,173,1040
570 DATA 128,191,141,041,067,169,000,162,0899
580 DATA 032,133,251,134,252,169,251,162,1384
590 DATA 032,160,071,032,216,255,165,001,0932
600 DATA 009,001,133,001,096,234,234,160,0868
610 DATA 000,177,251,145,253,230,251,208,1515
620 DATA 002,230,252,230,253,208,242,230,1647
630 DATA 254,202,208,237,096,000,000,000,0997
640 DATA 000,000,000,000,000,000,000,000,0000
650 DATA 000,000,000,000,000,000,000,000,0000
```

SOLITAIRE

C64

Alexander R Munro

This is a very good conversion of another classic game, and one that is not often seen nowadays.

```
1000 print"[CLR]"chr$(14)chr$(8):poke53280,0:poke53281,0:goto2430
1010 poke53265,0:gosub2020
1020 sc=0:gosub1940:poke53265,0
1030 gosub2120:gosub2150:ti$="000000":zz=fre(-1):poke53265,27:poke53272,31
1040 rem *** main ***
1050 ift=1thens$=right$(ti$,2):m$=mid$(ti$,4,1):printct$m$":"s$
1060 ifval(m$)=emthen1780
1070 r=1-(rand1):pokev+21,r
1080 j=peek(56320):getz$
1090 if(jand1)=0orz$="q"thengosub1270
1100 if(jand2)=0orz$="a"thengosub1240
1110 if(jand4)=0orz$="o"thengosub1210
1120 if(jand8)=0orz$="p"thengosub1180
1130 if(jand16)=0orz$=" "thengosub1300
1140 ifpeek(197)=3then1640
1150 ifc=1then1640
1160 goto1050
1170 rem *** movement routines ***
1180 if(y<152andx<118)or(y>184andx<118)or(y>151andy<185andx<150)then1200
1190 return
1200 pokev+21,1:fori=1to16:x=x+1:pokev,x:next:return
1210 if(y<152andx>86)or(y>184andx>86)or(y>151andy<185andx>54)then1230
1220 return
1230 pokev+21,1:fori=1to16:x=x-1:pokev,x:next:return
1240 if(x<86andy<184)or(x>118andy<184)or(x>85andx<119andy<216)then1260
1250 return
1260 pokev+21,1:fori=1to16:y=y+1:pokev+1,y:next:return
1270 if(x<86andy>152)or(x>118andy>152)or(x>85andx<119andy>120)then1290
1280 return
1290 pokev+21,1:fori=1to16:y=y-1:pokev+1,y:next:return
1300 rem *** make a move ***
1310 iff=1then1360
1320 rem *** ...from ***
1330 ifs((x-38)/16,(y-104)/16)=0thenreturn
1340 fx=(x-38)/16:fy=(y-104)/16:gosub1350:f=1:return
1350 printleft$(cd$,fy*2+8)left$(cr$,fx*2+2)"[RED][":return
1360 rem *** to..... ***
1370 ifs((x-38)/16,(y-104)/16)=1thengosub1900:return
1380 tx=(x-38)/16:ty=(y-104)/16
1390 t1=(fx-tx):t2=(fy-ty):tt=t1+t2:ift1=t2thengosub1900:return
1400 if s(fx-(t1/2),fy-(t2/2))=1and(tt=-2ortt=2)then1420
1410 goto1900
1420 rem *** action the move ***
1430 s(fx,fy)=0:s(tx,ty)=1:pokev+2,fx*16+40:pokev+3,fy*16+106
1440 printleft$(cd$,fy*2+8)left$(cr$,fx*2+2)" ":pokev+21,3
1450 fori=1to32:pokev+2,peek(v+2)-t1/2:pokev+3,peek(v+3)-t2/2:next
1460 printleft$(cd$,ty*2+8)left$(cr$,tx*2+2)"[LRED][":pokev+21,1
1470 ift1=-2thenprintleft$(cd$,fy*2+8)left$(cr$,fx*2+4)" ":s(fx+1,fy)=0
1480 ift1=2thenprintleft$(cd$,fy*2+8)left$(cr$,fx*2  )" ":s(fx-1,fy)=0
```

```
1490 ift2=-2thenprintleft$(cd$,fy*2+10)left$(cr$,fx*2+2)" ":s(fx,fy+1)=0
1500 ift2=2thenprintleft$(cd$,fy*2+6)left$(cr$,fx*2+2)" ":s(fx,fy-1)=0
1510 f=0:c=c-1:gosub1520:gosub1540:gosub1580:return
1520 rem *** score ***
1530 sc=sc+((34-c)*100)-(60*val(m$)+val(s$)):return
1540 rem *** print score ***
1550 ifsc<0thensc=0
1560 ss$=mid$(str$(sc),2,len(str$(sc))):sc$=left$("00000",6-len(str$(sc)))
1570 sc$=sc$+ss$:printleft$(cd$,17)left$(cr$,21)sc$:return
1580 rem *** print count. left ***
1590 c$=mid$(str$(c),2,len(str$(c))):co$=left$("00",3-len(str$(c)))
1600 c$=co$+c$:print"[LBLU]"left$(cd$,22)left$(cr$,26)c$:return
1610 rem *** print hisc ***
1620 h$=mid$(str$(hi),2,len(str$(hi))):hi$=left$("00000",6-len(str$(hi)))
1630 hi$=hi$+h$:print"[LBLU]"left$(cd$,17)left$(cr$,28)hi$:return
1640 rem *** end game ***
1650 ifc=1ands(4,4)=1then1690
1660 ifc=1ands(4,4)=0then1740
1670 goto1780
1680 rem *** win - centre ***
1690 gosub1890:print"[HOM]"spc(11)"[GRN]Congratulations!",,"[CD][LBLU][SP4]You h
ave successfully";
1700 print" completed",spc(9)"[CD]Solitaire. [GRN]TIME BONUS!!":gosub2340:gosub1
850
1710 em=em-1:ifem=2thenem=2
1720 gosub1890
1730 print"[HOM][GRN][SP3]Now try again with only"em" mins.":fori=1to4000:next:g
oto1030
1740 rem *** win - not centre ***
1750 gosub1890:print"[HOM][LBLU][SP2]Although you have finished Solitaire,","[CD
][SP4]the ";
1760 print"counter did not finish in the ",spc(11)"[CD]centre. [GRN]NO BONUS!"
1770 gosub2340:fori=1to4000:next:goto1710
1780 rem *** lose ***
1790 gosub1890:print"[HOM][LBLU][SP3]Unfortunately, since you have not","[CD] co
mpleted ";
1800 print"Solitaire, the game is over.","[CD] However, you will get a counter "
;
1810 print"bonus.":gosub2390:fori=33tocstep-1:r=1-(rand1):poke646,c(r):gosub1540
1820 sc=sc+10:next:fori=1to4000:next
1830 ifsc>hithenhi=sc
1840 goto1020
1850 rem *** time bonus ***
1860 mi=val(m$):se=val(s$)
1870 se=se+1:ifse=60thense=0:mi=mi+1:ifmi=emthenreturn
1880 sc=sc+5:r=1-(rand1):poke646,c(r):gosub1540:goto1870
1890 print"[HOM]";:fori=1to7:printsp$:next:return
1900 rem *** illegal move ***
1910 printleft$(cd$,fy*2+8)left$(cr$,fx*2+2)"[LRED][":fori=1to100:r=1-(rand1)
1920 poke646,c(r):printcd$"[SP3]ILLEGAL - Move has been cancelled!";:next:f=0
1930 printcd$sp$;:return
1940 rem *** title screen ***
1950 gosub2150:pokev+21,0:j=1:r=1:poke53265,27
1960 r=1-(rand1):poke646,c(r):printcd$" "mid$(me$,j,38);:j=j+1:ifj=247thenj=1
1970 printleft$(cd$,17)left$(cr$,28)hi$
1980 print"[HOM]"spc(17)"Written By",,spc(22)"Sandy Munro"
1990 getz$:ifz$="[CTLE]"thent=1:return
2000 ifz$="[CTLF]"thent=0:return
2010 goto1960
2020 rem *** set up ***
2030 v=53248:pokev+21,1:poke2040,13:poke2041,14:pokev+39,1:pokev+40,2:c(0)=1
2040 c(1)=14:em=5:hi=41445:s=54272:fori=stos+23:pokei,0:next:pokes+24,15
2050 cd$="[HOM][CD24]":cr$="[CR28]"
2060 sp$="[SP39]":x=102:y=168:c=32
2070 me$=sp$+" Use a joystick in port two or the keys Q, A, O, P and SPACE "
2080 me$=me$+"to control the cursor.[SP2]Press F1 to "
2090 me$=me$+"start game with timer and F3 to start game without timer. "
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```
2100 me$=me$+"When playing, press F7 if you cannot go any further. "
2110 ct$="[HOM][CD12][LBLU]"+left$(cr$,25):return
2120 rem *** re variables ***
2130 fori=0to7:forj=0to7:s(i,j)=1:nextj,i:s(4,4)=0:pokev,x:pokev+1,y:c=32
2140 return
2150 rem *** draw screen ***
2160 print"[CLR][CD8][LBLU][SP7]'&'&'&'",,,"[SP5]''← ] ] †''"
2170 print"[SP4]''''£'£'£''''",,,"[SP4]'''← ] ] †''''",,,"[SP3]'&'&'£'£'£'&'&'"
2180 print"[SP3]← ] ] ] ] ] ] †",,,"[SP3]'£'£'£'£'£'£'",,,"[SP3]← ] ] ] ] ] ]
"
2190 print"[SP3]'£'£'£'£'£'£'",,,"[SP3]← ] ] ] ] ] ] †",,,"[SP3]'%'%'£'£'£'%'%
'"
2200 print"[SP4]'''← ] ] †''''",,,"[SP4]''''£'£'£''''",,,"[SP5]''← ] ] †''"
2210 print"[SP7]'%'%'%'[HOM][CD7][LRED]"
2220 fori=1to7:ifi>2andi<6thenprint"[CD][CR4][[CR][[CR][[CR][[CR][[CR][[CR][":ne
xt
2230 print"[CD][CR8][[CR][[CR]["[next:printleft$(cd$,16)," "
2240 print"[HOM][CD11]"tab(25)"[GRN]Time",,,,"[LBLU][SP5]0:00"
2250 printtab(21)"[GRN][CD2]Score[SP2]Hisc.",,,"[LBLU] 00000[SP2]00000",,,"[GRN]
[CD2][SP3]Counters"
2260 printtab(25)"Left":printtab(26)"[LBLU]00":gosub2270:gosub1580:gosub1610:ret
urn
2270 rem *** title ***
2280 print"[HOM][WHT][SP6]▬[SP5].",,,"[SP5][REV]▚[OFF][SP2]▚[SP4][REV]▌[OFF]",,
,"[LGRY][SP5]▚[SP7][REV]▌[OFF][SP2][REV]▌[OFF]"
2290 print"[SP6]▚[SP2].[REV]▬[OFF].[REV]▌▌[OFF]▚[REV].▬[OFF] [REV]▚▬[OFF]▚ ▌[RE
V]▚▬[OFF]. .[REV]▬[OFF]."
2300 print"[MGRY][SP7]▚ ▌[SP2][REV]▌▌▌[OFF] [REV]▌[OFF] [REV]▌[OFF][SP3]▌▌▌[SP3]
[REV]▚[OFF]▬[REV]▚[OFF]"
2310 print"[SP8]▌▌[SP2][REV]▌▌▌[OFF] [REV]▌[OFF] [REV]▌[OFF][SP3]▌▌▌[SP3]▌"
2320 print"[DGRY][SP5]▚▬[REV]▚[OFF] ▚▬▚[REV]▌▌[OFF] [REV]▌[OFF][SP2]▚▬[REV]▚[OF
F]▌▌▌[SP3]▚▬▚";
2330 return
2340 rem *** sound ***
2350 pokes+4,32:pokes+5,15:pokes+6,1:pokes+12,14:pokes+13,1:pokes+19,14
2360 pokes+20,1:pokes+4,33:pokes+11,33:pokes+18,33:pokes,0:pokes+7,0:pokes+14,0
2370 forj=15to115:fori=20to255stepj: pokes+1,i:pokes+8,i-10:pokes+15,i-20
2380 nexti,j:pokes+4,0:pokes+11,0:pokes+18,0:return
2390 pokes+4,32:pokes+5,15:pokes+6,1:pokes+12,15:pokes+13,1:pokes+19,15
2400 pokes+20,1:pokes+4,33:pokes+11,33:pokes+18,33:pokes, 0:pokes+7, 0
2410 pokes+14,0:fori=255to10step-1:pokes+1,i:pokes+8,i-5:pokes+15,i-10:next
2420 pokes+4,0:pokes+11,0:pokes+18,0:return
2430 rem *** udg + sprite data ***
2440 poke52,48:poke56,48:clr:poke56334,0:poke1,51:fori=2048to4096
2450 poke12288+i,peek(53248+i):next:poke1,55:poke56334,1:fori=0to39:readq
2460 poke14552+i,q:next:fori=0to23:readq:poke14632+i,q:next:fori=0to79:readq
2470 poke14720+i,q:next:fori=13to14:forj=0to62:readq:pokei*64+j,q:nextj,i
2480 poke53272,31:goto1010
2490 rem *** udg data ***
2500 data24,126,126,255,255,126,126,24,129,231,255,255,255,255,231,129,255,126
2510 data126,60,60,126,126,255,255,127,127,63,63,127,127,255,255,254,254,252
2520 data252,254,254,255,129,231,255,255,255,255,255,255,255,255,255,255,255,255
2530 data255,231,129,255,255,255,255,255,255,255,255,60,66,66,,66,66,60,,,2,2,
2540 data2,2,,,60,2,2,60,64,64,60,
2550 data60,2,2,60,2,2,60,,,66,66,60,2,2,,,60,64,64,60,2,2,60,,60,64,64,60,66
2560 data66,60,,60,2,2,,2,2,,,60,66,66,60,66,66,60,,60,66,66,60,2,2,60,
2570 rem *** sprite data ***
2580 data6,,,31,128,,57,192,,96,96,,96,96,,192,48,,192,48,,96,96,,96,96,,57,192
2590 data,31,128,,6,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,24,,,126,,,126,,,255,,,255,,
2600 data126,,,126,,,24,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
```

Blackjack

by Mark Manning Part One:

Do you fancy trying your luck at cards? This program will TEACH you to play Blackjack (Pontoon) to the international standards, including cardcounting and doubling. A very good program, fast running and very well presented.

HOW many of you think you know how to play BLACKJACK?

Well unless you spend a lot of time in your local casino then the chances are that you in actual fact don't.

For instance, do you know what insurance is? or what doubling down is? and can you count cards???

If you don't, or can't then this program will teach you how, because it plays to international casino rules.

Actually, casinos don't really like people who count cards, they consider it cheating and can get real nasty if they even suspect you of it. Which only goes to prove that it really works!

Basically Casino rules are the same as those make it up as you go along rules that everyone plays to.

The object is for you to beat the dealer. To do this you must get a higher hand total than his, without going above 21.

All the rules are contained within the main program but I think I should explain Insurance and Doubling down a little further.

DOUBLING DOWN?

If after the deal you hold a hand with a total of either 10 or 11, then you have the option of doubling your original bet.

If you take this option, the dealer will deal you 1 more card on that hand and 1 card only. After this card the hand is stuck.

You may only double immediately after the deal (unless you've split) when your hand still has only two cards in it.

If you've split your hand then you may double after your first twist if your hand then totals either 10 or 11. After doubling this hand, play continues on your second (or third or fourth) hand.

By the way, in some people's rule books you are only allowed 1 hand and must bust all but 1 hand when you split.

This is definitely one of those make it up as you go along rules I mentioned previously, because to split any hand you must place an equivalent bet to your original on your second and each subsequent hand. Who in there right mind would split if they had to loose all but one hand when they'd put their hard earned cash at state! Not me, that's for sure!!

INSURANCE!!

The rules for the game of blackjack have gone through many changes since the day it was invented, especially the casino rules.

Each change though seems to make it just that little bit easier for the player to beat the dealer! (although at one time the casinos did ban the splitting of aces!).

Insurance is probably your greatest weapon when playing casino blackjack. This is how it works . . .

If after the deal the dealers up card is either an ace of a ten valued card, then there is a possibility that he may have blackjack.

At this point the dealer will (MUST!) ask you if you would like to insure against this possibility.

To do this you would make a separate bet of exactly 1 half of your original.

What you are doing is betting that the dealer DOES have blackjack. If you win this bet, it will pay of at 2 to 1. Of course, you will still lose your original bet at the same time but as $2*(½)-1=0$ you won't lose anything! If the dealer does not have blackjack then you will only lose half your original bet and play will continue with the hand.

OK! So you can now play blackjack. But can you win at it! For that matter, can anyone win any casino game?

Well if you were talking about craps or roulette (games of chance!) then the answer would be one big NO! Because there is no such thing as a system for beating these games.

Blackjack on the other hand can be beaten, and is the only casino game that can!

Even if you don't cheat by counting cards, you can win, if you play right!

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All it takes is a little know how.

You've got to know when to hold'em, know when to fold'em . . . (and all that other good stuff).

The main program will tell you all about this, so I won't spoil if for you by repeating myself here!

GETTING IT ALL IN . . .

If you look you will see that there are 5 basic loaders for this game. These are as follows . . .

CHARS.DAT
SCREEN.DAT
BJ.DAT.1
BJ.DAT.2
DATASAVER.DAT.

Type in and save the first two. Then load and run CHARS.DAT. It will enter all it's data into memory and then save it out to a file called CHARS. Then load and run SCREEN.DAT. which will create a file called SCREEN.

For test purposes, while checking your data. You might like to prevent this linking to the next file.

The basic loaders will trap just about any error in typing and will list any line not entered correctly, so the chances of an error slipping by are somewhere between slim and nothing. I wrote the program that generated these basic loaders especially for this game, because of it's size. It uses a checksum method much like those that you see all the time in mags like this one.

The way these checksums work is to add each data element in one line to a variable (CK in my programs). When the whole line of data has been read in, it extracts the low order byte from CK, and compares it with that lines checksum byte. If everything is OK, CK is cleared and the next line of dta is read in.

My programs works slightly different. When a line of data is entered correctly, CK is not cleared but left over to be added to the next line of data. This makes the checksums accumulative.

The advantage of this method is that if you miss a line of data out. The checksum will accumulate a wrong value, and a list will occur to the missing line.

OK! You should now have the two generated files on disk. You must now prepare for a mega typing session, because the next two files are 61 disk blocks long each!!!

Type them in, save them, then take a week or so off to recouperate. When you can feel your fingertips again, type in and save the file DATASAVER.DAT.

Then load and run BJ.DAT.1. This will, when finished POKEing it's data into memory, load and run BJ.DAT.2, which will link to DATASAVER.DAT. This loader puts a small machine code routine into memory at address $6000 (24576)

This routine will save out the block of memory from $7000 to $9002 (28672 to 36866), to a file called BLACKJACK. This files load address is $E000 (57344).

DATASAVER.DAT will then LOAD "BLACKJACK", 8.1.

When the load is complete, this file will autorun, so there is no need to memorise any SYS address for this program.

Just reload it if you exit and then decide that you didn't want to exit after all.

If anyone would like a copy of the source file for this program (BLACKJACK, not DATASAVER), then please send me a disk and a stamped addressed envelope to . . .

MARK I MANNING IV
3 BROOK STREET
BLACKPOOL, MARTON
LANCS, FY4 4BE

And I'll send you a copy. Please place the source file for one of your own machine code programs on thsi disk if you like!

This though is not a pre-requisite, if you haven't written any machine code programs or don't want anyone to know your programming secrets, the I will still send you a copy of mine!

```
1 REM DATASAVER
2 :
3 REM   GENERATED BY DATAGEN
4 REM
5 REM    COPYRIGHT (C) 1987
6 REM
7 REM   BY MARK I MANNING IV
8 :
9 :
10 M=24576:L=990:I=10:PRINTCHR$(147)
20 FORP=1TO7:L=L+I:FORN=0TO15
30 READA$:GOSUB100
40 POKEM+N,D:CK=CK+D
50 NEXT:READA$:GOSUB100
60 CK=CK-(INT(CK/256)*256):IFCK=DTHEN90
70 A$=CHR$(147)+"LIST"+STR$(L):PRINTA$
80 POKE631,19:POKE632,13:POKE198,2:END
90 PRINTL"[SP2]OK":M=M+16:NEXT:GOTO170
100 LB=ASC(RIGHT$(A$,1))-48
110 HB=ASC(LEFT$(A$,1))-48
120 IFLB>9THENLB=LB-7
130 IFHB>9THENHB=HB-7
140 D=HB*16+LB:RETURN
```

```
150 :
160 :
170 SYS24576:LOAD"BLACKJACK",8,1
180 :
190 :
1000 DATA A9,02,A2,08,A8,20,BA,FF,A9,09,A2,60,A0,60,20,BD, 67
1010 DATA FF,A9,00,85,AC,A9,70,85,AD,A9,61,85,B9,A4,B7,20, 4E
1020 DATA D5,F3,A5,BA,20,0C,ED,A5,B9,20,B9,ED,A9,00,20,DD, 58
1030 DATA ED,A9,E0,20,DD,ED,A0,00,B1,AC,20,DD,ED,20,DB,FC, 96
1040 DATA A5,AC,C9,04,D0,F2,A5,AD,C9,90,D0,EC,20,FE,ED,A5, 8D
1050 DATA BA,20,0C,ED,A5,B9,29,EF,09,E0,20,B9,ED,4C,FE,ED, BC
1060 DATA 42,4C,41,43,4B,4A,41,43,4B,00,00,00,00,00,00,00, 32

1 REM SCREEN.DAT
2 :
3 REM   GENERATED BY DATAGEN
4 REM
5 REM    COPYRIGHT (C) 1987
6 REM
7 REM   BY MARK I MANNING IV
8 :
9 :
10 M=28672:L=990:I=10:PRINTCHR$(147)
20 FORP=1TO62:L=L+I:FORN=0TO15
30 READA$:GOSUB100
40 POKEM+N,D:CK=CK+D
50 NEXT:READA$:GOSUB100
60 CK=CK-(INT(CK/256)*256):IFCK=DTHEN90
70 A$=CHR$(147)+"LIST"+STR$(L):PRINTA$
80 POKE631,19:POKE632,13:POKE198,2:END
90 PRINTL"[SP2]OK":M=M+16:NEXT:GOTO170
100 LB=ASC(RIGHT$(A$,1))-48
110 HB=ASC( LEFT$(A$,1))-48
120 IFLB>9THENLB=LB-7
130 IFHB>9THENHB=HB-7
140 D=HB*16+LB:RETURN
150 :
160 :
170 OPEN2,8,2,"SCREEN,P,W":M=28672
180 PRINT#2,CHR$(0);CHR$(4);
190 A$=CHR$(PEEK(M)):PRINT#2,A$;
200 M=M+1:IFM<>29658THEN190
210 CLOSE2:END
220 :
230 :
1000 DATA 55,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43, 42
1010 DATA 43,43,43,43,43,43,43,43,43,43,49,55,43,43,43,43, 8A
1020 DATA 43,43,43,43,43,43,43,49,42,20,20,20,20,20,20,20, CA
1030 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, CA
1040 DATA 20,20,42,42,20,20,20,20,20,20,20,20,20,20,20,42, 30
1050 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 52
1060 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, 96
1070 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, DA
1080 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, DA
1090 DATA 20,20,42,42,20,14,17,09,13,14,20,20,20,14,20,42, EF
1100 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 11
1110 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, 55
1120 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, 99
1130 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 99
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```
1140 DATA 20,20,42,42,20,13,14,09,03,0B,20,20,20,13,20,42, 90
1150 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, B2
1160 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, F6
1170 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, 3A
1180 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 3A
1190 DATA 20,20,42,42,20,06,0F,0C,04,20,20,20,20,06,20,42, 2B
1200 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 4D
1210 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, 91
1220 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, D5
1230 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, D5
1240 DATA 20,20,42,42,20,13,10,0C,09,14,20,20,20,18,20,42, DF
1250 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 01
1260 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, 45
1270 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, 89
1280 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 89
1290 DATA 20,20,42,42,20,04,0F,15,02,0C,05,20,20,04,20,42, 4E
1300 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 70
1310 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, B4
1320 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, F8
1330 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, F8
1340 DATA 20,20,42,42,20,03,0F,15,0E,14,20,20,20,03,20,42, EA
1350 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 0C
1360 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, 50
1370 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, 94
1380 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 94
1390 DATA 20,20,42,42,20,12,05,13,14,01,12,14,20,12,20,42, 71
1400 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 93
1410 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, D7
1420 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, 1B
1430 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 1B
1440 DATA 20,20,42,42,20,11,15,09,14,20,20,20,20,11,20,42, 35
1450 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 57
1460 DATA 20,20,20,20,20,20,20,20,20,20,42,42,20,20,20,20, 9B
1470 DATA 20,20,20,20,20,20,20,42,42,20,20,20,20,20,20,20, DF
1480 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, DF
1490 DATA 20,20,42,42,20,20,20,20,20,20,20,20,20,20,20,42, 45
1500 DATA 4A,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43, 7C
1510 DATA 43,43,43,43,43,43,43,43,43,43,4B,4A,43,43,43,43, BB
1520 DATA 43,43,43,43,43,43,43,4B,55,43,43,43,43,43,43,43, 05
1530 DATA 43,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43, 35
1540 DATA 43,43,49,55,43,43,43,43,43,43,43,43,43,43,43,49, 83
1550 DATA 42,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, A5
1560 DATA 20,20,20,20,20,20,20,20,20,20,42,42,0D,0F,0E,05, 98
1570 DATA 19,24,20,20,20,20,20,42,4A,43,43,43,43,43,43,43, D6
1580 DATA 43,43,43,43,43,43,43,43,43,43,43,43,43,43,43,43, 06
1590 DATA 43,43,4B,4A,43,43,43,43,43,43,43,43,43,43,43,4B, 4D
1600 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 4D
1610 DATA 20,20,20,20,20,20,20,20,20,20,20,20,20,20,20,20, 4D


1 REM CHARS.DAT
2 :
3 REM   GENERATED BY DATAGEN
4 REM
5 REM    COPYRIGHT (C) 1987
6 REM
7 REM   BY MARK I MANNING IV
8 :
9 :
10 M=14336:L=990:I=10:PRINTCHR$(147)
```

```
20 FORP=1TO128:L=L+I:FORN=0TO15
30 READA$:GOSUB100
40 POKEM+N,D:CK=CK+D
50 NEXT:READA$:GOSUB100
60 CK=CK-(INT(CK/256)*256):IFCK=DTHEN90
70 A$=CHR$(147)+"LIST"+STR$(L):PRINTA$
80 POKE631,19:POKE632,13:POKE198,2:END
90 PRINTL"[SP2]OK":M=M+16:NEXT:GOTO170
100 LB=ASC(RIGHT$(A$,1))-48
110 HB=ASC( LEFT$(A$,1))-48
120 IFLB>9THENLB=LB-7
130 IFHB>9THENHB=HB-7
140 D=HB*16+LB:RETURN
150 :
160 :
170 OPEN2,8,2,"CHARS,P,W":M=14336
180 PRINT#2,CHR$(0);CHR$(56);
190 A$=CHR$(PEEK(M)):PRINT#2,A$;
200 M=M+1:IFM<>16384THEN190
210 CLOSE2:CLR:LOAD"SCREEN.DAT",8
220 :
230 :
1000 DATA 3C,66,6E,6E,60,62,3C,00,18,3C,66,7E,66,66,66,00, E6
1010 DATA 7C,66,66,7C,66,66,7C,00,3C,66,60,60,60,66,3C,00, 56
1020 DATA 78,6C,66,66,66,6C,78,00,7E,60,60,78,60,60,7E,00, 44
1030 DATA 7E,60,60,78,60,60,60,00,3C,66,60,6E,66,66,3C,00, 92
1040 DATA 66,66,66,7E,66,66,66,00,3C,18,18,18,18,18,3C,00, 64
1050 DATA 1E,0C,0C,0C,0C,6C,38,00,66,6C,78,70,78,6C,66,00, 5A
1060 DATA 60,60,60,60,60,60,7E,00,63,77,7F,6B,63,63,63,00, 05
1070 DATA 66,76,7E,7E,6E,66,66,00,3C,66,66,66,66,66,3C,00, 8D
1080 DATA 7C,66,66,7C,60,60,60,00,3C,66,66,66,66,3C,0E,00, 8F
1090 DATA 7C,66,66,7C,78,6C,66,00,3C,66,60,3C,06,66,3C,00, 83
1100 DATA 7E,18,18,18,18,18,18,00,66,66,66,66,66,66,3C,00, 31
1110 DATA 66,66,66,66,66,3C,18,00,63,63,63,6B,7F,77,63,00, 70
1120 DATA 66,66,3C,18,3C,66,66,00,66,66,66,3C,18,18,18,00, 4E
1130 DATA 7E,06,0C,18,30,60,7E,00,3C,30,30,30,30,30,3C,00, 6C
1140 DATA 0C,12,30,7C,30,62,FC,00,3C,0C,0C,0C,0C,0C,3C,00, 78
1150 DATA 00,18,3C,7E,18,18,18,18,00,10,30,7F,7F,30,10,00, 28
1160 DATA 00,00,00,00,00,00,00,00,18,18,18,18,00,00,18,00, A0
1170 DATA 66,66,66,00,00,00,00,00,66,66,FF,66,FF,66,66,00, CE
1180 DATA 18,3E,60,3C,06,7C,18,00,62,66,0C,18,30,66,46,00, 22
1190 DATA 3C,66,3C,38,67,66,3F,00,06,0C,18,00,00,00,00,00, 6E
1200 DATA 0C,18,30,30,30,18,0C,00,30,18,0C,0C,0C,18,30,00, FA
1210 DATA 00,66,3C,FF,3C,66,00,00,00,18,18,7E,18,18,00,00, 1B
1220 DATA 00,00,00,00,00,18,18,30,00,00,00,7E,00,00,00,00, F9
1230 DATA 00,00,00,00,00,18,18,00,00,03,06,0C,18,30,60,00, E6
1240 DATA 3C,66,6E,76,66,66,3C,00,18,18,38,18,18,18,7E,00, A2
1250 DATA 3C,66,06,0C,30,60,7E,00,3C,66,06,1C,06,66,3C,00, D0
1260 DATA 06,0E,1E,66,7F,06,06,00,7E,60,7C,06,06,66,3C,00, FB
1270 DATA 3C,66,60,7C,66,66,3C,00,7E,66,0C,18,18,18,18,00, D1
1280 DATA 3C,66,66,3C,66,66,3C,00,3C,66,66,3E,06,66,3C,00, 0B
1290 DATA 00,00,18,00,00,18,00,00,00,00,18,00,00,18,18,30, B3
1300 DATA 0E,18,30,60,30,18,0E,00,00,00,7E,00,7E,00,00,00, BB
1310 DATA 70,18,0C,06,0C,18,70,00,3C,66,06,0C,18,00,18,00, CD
1320 DATA 00,00,00,FF,FF,00,00,00,08,1C,3E,7F,7F,1C,3E,00, 85
1330 DATA 18,18,18,18,18,18,18,18,00,00,00,FF,FF,00,00,00, 43
1340 DATA 00,00,FF,FF,00,00,00,00,00,FF,FF,00,00,00,00,00, 3F
1350 DATA 00,00,00,00,FF,FF,00,00,30,30,30,30,30,30,30,30, BD
1360 DATA 0C,0C,0C,0C,0C,0C,0C,0C,00,00,00,E0,F0,38,18,18, 55
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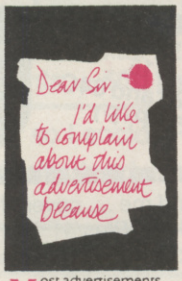

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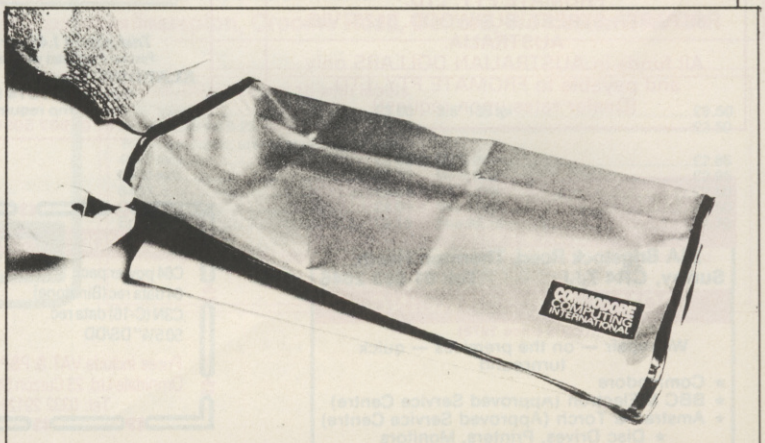

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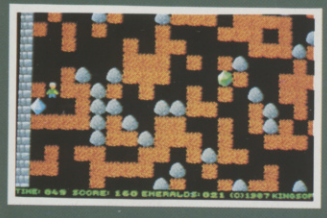

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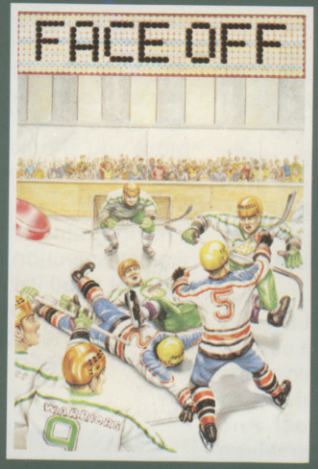

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